

217/782-2113

CONSTRUCTION PERMIT - NESHAP SOURCE - NSPS SOURCE

PERMITTEE

Chicago Coke Co., Inc.
Attn: Simon A. Beemsterboer
11400 South Burley Avenue
Chicago, Illinois 60617

Application No.: 04010037 I.D. No.: 031600AMC
Applicant's Designation: Date Received: May 3, 2004
Subject: "Pad-Up Rebuild" of Coke Oven Battery
Date Issued: April 28, 2005
Location: 11400 South Burley Avenue, Chicago, 60617

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of changes to the existing coke oven battery which will enable the plant to resume operations as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 OVERALL SOURCE CONDITIONS

1.1 Source Description

- 1.1.1 The coke oven battery, by-product plant and ancillary operations, which were previously owned and operated by LTV Steel, Inc., were in operation until December 2001. In December 2001, the facility discontinued coke production and was put into hot idle mode. In February 2002, the facility was placed into cold idle-mode. On December 30, 2002, the facility was sold to Calumet Transfer Company, LLC and Chicago Coke Company was designated to operate the facility on Calumet Transfer's behalf.

The company has decided that for long-term operation, a "pad-up rebuild" is necessary. The most appropriate time to perform a "pad-up rebuild" is during the cold idle mode. This "pad-up rebuild" involves rebricking the coke oven batteries from the pad up, i.e., it does not involve changes to the existing deck slab or coke oven battery footprint. However, the source will be making various enhancements to the battery and ancillary operations during the "pad-up rebuild" that should improve its operation, including installation of a PROven System in the gas collection system from the battery and improvements to the existing staged combustion system to reduce NO_x emissions. The facility will also be subject to tighter operating and emission limitations such that a significant increase in emissions will not occur.

1.2 PSD/NAA NSR Non-Applicability

1.2.1 Pollutants

Chicago Coke is located in a non-attainment area for PM₁₀ and ozone. The location of the plant is designated attainment for all other pollutants. The PSD pollutants of concern are CO, NO_x and SO₂ and the nonattainment NSR pollutants are PM₁₀/PM, NO_x (8-hour ozone standard) and VOM.

1.2.2 Discussion

- a. The Permittee has addressed the applicability of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM) to this project. The limits in this permit are intended to ensure that the project addressed in this construction permit does not constitute a major modification pursuant to these rules, as further explained in Attachments 1 through 3, which address emissions of PM, PM₁₀, SO₂, VOM, NO_x and CO from the significant emission units at the source. Emissions of insignificant activities should not increase as a result of this project as the amount of coal that can be charged to the battery is limited to only slightly more than historical levels. Emissions of other PSD pollutants, e.g., sulfuric acid mist, reduced sulfur compounds and fluorides, are indirectly addressed by the provisions for the principal pollutants.
- b. This permit is issued for the modification and restart of an existing source. This source is not considered a new major source because the source was not permanently shut down. In particular, the source made considerable efforts when operations were temporarily discontinued to ensure the minimum effort and cost of resuming operations at the facility. These efforts included, but were not limited to, operating the coke oven battery in a hot idle mode for a period of time, maintaining and not dismantling or demolishing equipment, and preserving the operating permit. These efforts support the intent of the Permittee and its predecessors to resume operations at this facility.

1.3 Applicable Regulatory Requirements for the Source

1.3.1 Benzene Waste Operations NESHAP

- a. i. This permit is issued based on the source having an total annualized waste level for benzene that is less than 10 megagrams per year (11 tons per year), so that waste operations are not subject to the control requirements of the NESHAP, 40 CFR 61, Subpart FF.

- ii. Pursuant to 40 CFR 61.355(a)(4)(i), the Permittee shall comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357.
- b. Pursuant to 40 CFR 61.355(a)(4)(ii), the Permittee shall repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in a process generating a waste that could cause the total annual benzene quantity from facility waste to increase to 10 megagrams/year (11 tons/year) or more.

1.3.2 Emissions Reduction Market System (ERMS)

- a. This source is considered a "participating source" for purposes of the ERMS, 35 IAC Part 205.
- b. As will be further specified by the source's CAAPP permit, pursuant to 35 IAC 205.150(c)(1) and 35 IAC 205.720, as of December 31 of each year, this source shall hold ATUs in its account in an amount not less than the ATU equivalent of its VOM emissions during the preceding seasonal allotment period (May 1 - September 30) as calculated under the Part 205 rules (including 205.750), or the source shall be subject to "emissions excursion compensation."

1.3.3 NO_x Trading Program

- a. Boiler 4B is considered a "budget unit" for purpose of the NO_x Control and Trading Program for Specified NO_x Generating Units, 35 IAC Part 217 Subpart U (NO_x Trading Program).
- b. The Permittee shall comply with all applicable requirements of the NO_x Trading Program for Boiler 4B, as further addressed in Section 2.4 of this permit.

1.4 Source-Wide Operational Limitations

1.4.1 Coal Throughput

- a. The amount of dry coal charged to the coke oven battery shall not exceed 2,765 tons/day (monthly average) and 900,000 tons/year.
- b. Compliance with annual limit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

1.4.2 Diesel Fuel Usage Requirements

- a. During construction and operation of the plant, the Permittee shall take reasonable actions to ensure that ultra low sulfur diesel fuel is used in the operation of all diesel vehicles owned and operated at the plant by the Permittee and all diesel vehicles operated at the facility that the Permittee has the direct right to control, so long as ultra low sulfur diesel fuel is available. This requirement does not extend to personal vehicles of employees or contractors, delivery vehicles not owned by the Permittee and other vehicles that may be on site for any purpose that would not reasonable be considered to be controlled by the Permittee. In addition, any fuel in the fuel tank of any diesel vehicle brought onto the site for operation at the site, may be used until the vehicle must refuel in the normal course of operation.

1.5 Source-Wide Emission Limitations

1.5.1 Emissions of Other Regulated Pollutants

- a. i. Emissions shall not exceed the limitations in Attachment 1.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

- ii. For purposes of determining compliance with these limits, the Permittee may exclude:

- A. Emissions from the boilers, which are not being physically modified, that are unrelated to this project to restart the coke oven battery, that is, the rebuild of the battery and subsequent production of coke and coke byproducts, that (1) the boilers could have accommodated during the consecutive time period used to establish the baseline emissions and (2) that are unrelated to the operation of the coke plant, such as operation to generate electricity for sale, provided that the Permittee notifies the Illinois EPA in advance of its intent to exclude such emissions, explaining how the nature and amount of such excluded emissions will be determined.

B. Emissions from subsequent projects at the site that are unrelated to the production of coke and coke byproducts, provided that the Permittee obtains required construction permits for such projects.

- b. i. If the sampling and analysis of coke oven gas for sulfur content required by this permit for the 12-month period of operation beginning on the fourth month following resumption of operation of the coke plant demonstrates that a different level of organic sulfur (sulfur present in a form other than hydrogen sulfide) was present in the coke oven gas historically, as relied upon in establishing the limit on sulfur dioxide (SO₂) emissions in Attachment 1, the Permittee shall promptly apply for an appropriate revision to address the new data.
- ii. In such circumstances, provided that the Permittee applies for a revised permit within 18 months of resumption of operation of the coke plant, until a revised permit is issued notwithstanding Condition 1.5.1(a)(i), an exceedance of the SO₂ limitation in Attachment 1 shall not be considered a violation if the Permittee demonstrates that it is attributable to more accurate data for organic sulfur content of coke oven gas and this project still does not constitute a major modification in accordance with 40 CFR 52.21(b)(2) and (r)(6)(v).

1.5.2 Future Permitted Emissions As Related to Fees

It is expected that the operation of the source as authorized by this permit will be accompanied by the following permitted emissions, as addressed by the source's CAAPP permit.

New Levels of Permitted Emissions

Pollutant	Tons/Year
Volatile Organic Material (VOM)	91.1
Sulfur Dioxide (SO ₂)	289.6
Particulate Matter (PM)	478.3
Nitrogen Oxides (NO _x)	1,803.9
Hazardous Air Pollutants (HAPs) Not Included in VOM or PM	---
Total	2,662.9

Note: These permitted emissions would address the annual emissions from the source, as addressed by this permit, not considering insignificant activities. Compliance with limitations on permitted emissions would be determined on a calendar year basis by adding emissions from all emission units at the source (excluding insignificant activities). As limitations on permitted emissions are set for the purpose of establishing site fees for the source under Section 39.5(18) of the Act and are not needed for purposes of New Source Review, i.e., Major Stationary Sources Construction and Modification, 35 IAC Part 203, and Prevention of Significant Deterioration, 40 CFR 52.21, such limitations are not federally enforceable.

1.6 Effective Date of Compliance Procedures

- a. The Permittee shall continue to submit all required reports while the battery is idle or construction on the restart is underway. If there has been no operation or emissions as related to a particular report, this shall be stated in the report.
- b. The Permittee shall implement the inspections, testing, monitoring and recordkeeping in this permit for individual emission units as the units resume operation and generate emissions or the potential for emissions is present.

1.7 General Recordkeeping Requirements

1.7.1 Operational and Emission Records

- a. The Permittee shall maintain the following operational records:
 - i. Running 12-month total dry coal charged to the battery (tons).
 - ii. Amount of coke produced (tons/month and tons/year).
- b. The Permittee shall maintain the following records related to emissions:
 - i. Total annual emissions of PM, VOM, SO₂, NO_x and HAPs not included as PM, VOM, SO₂ or NO_x, on a calendar year basis for the emission units covered by Section 2 (Unit Specific Conditions) of this permit.
 - ii. Running 12-month total emissions of PM, PM₁₀, VOM, SO₂, NO_x, and CO from the emission units or categories of units as addressed in Attachment 1.

- iii. Records that identify any exceedance of an applicable emission limitation.

1.7.2 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein or by the source's CAAPP permit), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.
- c. These minimum requirements for retention and availability of records shall be superseded by any requirements of applicable regulations that are more stringent.

1.8 General Reporting Requirements

1.8.1 General Source-Wide Reporting Requirements

- a. The Permittee shall notify the Illinois EPA of deviations of the source with the permit requirements of Section 1 of this permit within 30 days of the event. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
- b. The Permittee shall notify the Illinois EPA when the source first begins to produce coke.

1.8.2 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

1.8.3 Annual Compliance Certification

The terms and conditions of this construction permit shall be addressed in the annual compliance certification required to be submitted by this source by May 1 of each year for the prior calendar year, pursuant to the source's CAAPP permit.

1.8.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
 - i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276
 - ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016
 - iii. Illinois EPA - Air Permit Section (MC 11)

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506
 - iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

- 1.9 The Permittee may operate the source under this construction permit until such time as final action is taken on the CAAPP application for the source provided that the Permittee submits a complete application to amend the CAAPP permit or a complete supplement to a pending CAAPP application, which incorporates new requirements established by this permit within 270 days of resuming coke plant operations at the source.

2.0 UNIT SPECIFIC CONDITIONS

2.1 Unit 01 - Coke Oven Battery

2.1.1 Description

The plant is designed to produce metallurgical coke from coal in the coke oven battery, which is made up of a row of 60 individual ovens that are about 18 inches wide, 6 meters high and 49 feet deep. In the coking process, coal is "cooked", driving off volatile compounds from the coal as gases, to form carbon-rich coke. These byproduct gases are recovered, processed elsewhere at the source, and then used as fuel at the source. This coke oven gas is used as the fuel for heating the coke ovens, passing through vertical flues located in the brick walls separating the ovens. Coke oven gas is also used as the primary fuel in the boilers at the source.

To make coke, coal is first charged into a hot oven through ports on the top of the oven and the oven is then sealed. When the conversion of coal to coke in an oven is complete, after about 18 hours, the oven is disconnected from the gas collecting main. There is a brief period between the end of the coking cycle after the collecting main is closed off and before the coke is pushed out of the oven, called soaking, during which "soaking" emissions due to incomplete coking or oven leakage may occur through an open standpipe. After soaking, the finished coke is pushed out of the "coke side" of the oven into a rail car. Finally the railcar with hot coke is moved to the quench area where the hot coke is flooded with water. The operation of the individual ovens in the battery is sequential so that ovens are at different stages in the coking process.

Various control methods and devices are used to prevent and control emissions during the various steps in production of coke, including a mobile capture system and a stationary baghouse system for pushing. Emissions from the combustion stack are minimized by processing of the raw gas in the byproducts plant prior to combustion and the design of the combustion system. As part of this project, improvements will be made to staging of combustion air in the combustion system, to address only coke oven gas, rather than both coke oven gas and blast furnace gas, which should reduce NO_x emissions.

In addition to emissions from the charging, soaking, pushing and quenching operations and from combustion, coke ovens are sources of coke oven emissions from uncaptured byproduct gas that escape from leaking doors and lids and connections in the gas collection system. These emissions are controlled by work practices that minimize such leaks.

In particular, in a conventional coke battery, the pressure inside the ovens is positive and high during the early stages of coking, which contributes to emissions during charging and from leaks. As part of the rebuild of this battery, the Permittee will install a new electronic controller system, called the Pressure Regulated Oven (PROven) System, to increase the effectiveness of emissions control. With the PROven System, the collecting main is maintained under suction (negative pressure) and the pressure of individual ovens is controlled depending on the stage of the coking cycle, independent of the pressure in the collecting main. The Permittee expects that by better management of oven pressure during the coking cycle, the PROven system will reduce the number and extent of leaks from the ovens and reduce the associated emissions.

In addition to emissions standards and requirements set by rule, the battery is subject to standards and requirements contained in PSD Permit EPA-5-79-A-9 (the PSD Permit), which represented Best Available Control Technology (BACT) for the battery, as established by USEPA in 1979 before the battery was constructed.

2.1.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
01	Coke Oven Processes	
	<ul style="list-style-type: none"> - Fugitives (Leaks) <ul style="list-style-type: none"> - Charging - Doors - Lids - Offtakes - Collecting Mains - Soaking - Pushing - Quenching - Combustion Stack - Bleeder Stacks - Emergency Gas Release 	<ul style="list-style-type: none"> - Jumper Pipe, PROven System, Charging System, Seal/Maintenance Program, Work Practice Standards - Work Practice Standards - Work Practice Standards - Hooding/Baghouse System - Quench Tower (Design & TDS Limit) - Gas Cleaning at Byproducts Plant (Takahax System) - Staged Combustion - Flaring - Emergency Flare System

2.1.3 Applicability Provisions

- a. The "affected units" for the purpose of these unit-specific conditions, are the units described in Conditions 2.1.1 and 2.1.2.
- b.
 - i.
 - A. The following affected units are affected sources pursuant to the NESHAP for Coke Oven Batteries, 40 CFR Part 63, Subpart L: charging, doors, lids, offtakes and bleeder stacks. The Permittee is complying with the so-called LAER track under this NESHAP, as provided for by 40 CFR 63.304.
 - B. For affected operations at the coke oven battery, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A.
 - ii.
 - A. The following affected units are affected operations pursuant to the NESHAP for Coke Ovens: Pushing, Quenching and Battery Stacks, 40 CFR Part 63, Subpart CCCCC: pushing, soaking, quenching and battery stacks as an existing source.
 - B. For affected operations at the coke oven battery, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A as specified in Table 1 in 40 CFR 63 Subpart CCCCC.
 - C. Notwithstanding conditions in this section of this permit (Section 2.1) that require compliance with substantive control requirements and procedural requirements of the NESHAP, 40 CFR 63 Subpart CCCCC, as the compliance date for this subpart is April 14, 2006, failure to satisfy such requirements prior to this date shall not be considered a violation. During the period prior to April 14, 2006, with respect to affected sources, the Permittee shall comply with 40 CFR 63.6(e), as it requires that at all times the owner or operator of an affected source must operate and maintain the source, including associated air pollution control equipment in a manner consistent with safety and good air pollution control practice for minimizing emissions.

- iii. Notwithstanding conditions in this section of this permit that require submittal to USEPA of particular notifications and reports related to the NESHAP, such submittals shall not be required to the extent that USEPA formally waives such submittals or establishes alternative requirements for such submittals.

2.1.3-1 Applicable Standards: Coke Oven Charging

- a. Pursuant to the PSD permit, the duration of visible emissions during charging operations shall not exceed a total of 55 seconds for five consecutive charges.

Note: This limit is more stringent than the limit for charging set by 35 IAC 212.443(b) (1) (A) (total duration of visible emissions shall not exceed 125 seconds over five consecutive charges).

- b. Emissions to the atmosphere from coke oven charging shall not exceed 10 seconds of visible emissions per charge, as determined by the procedures in 40 CFR 63.309(d) (2).

Note: This limit is more stringent than the limit set by the NESHAP. Pursuant to 40 CFR 63.304(b) (4) (iv), emissions to the atmosphere from coke oven charging shall not exceed 12 seconds of visible emissions per charge, as determined by the procedures in 40 CFR 63.309(d) (2).

2.1.3-2 Applicable Standards: Leaks from Doors

- a. There shall be no visible emissions from more than 4.0 percent of the coke oven doors at any time.

Note: This limit is more stringent than the limits for coke oven doors set by 35 IAC 212.443(d) (1) (10 percent) and the PSD permit (5 percent).

- b. Emissions to the atmosphere shall not exceed 2.5 percent leaking doors, as determined by the procedures in 40 CFR 63.309(d) (1).

Note: This limit is more stringent than the limit set by the NESHAP. Pursuant to 40 CFR 63.304(b) (4) (i) (A), emissions to the atmosphere shall not exceed 4.0 percent leaking doors, as determined by the procedures in 40 CFR 63.309(d) (1).

2.1.3-3 Applicable Standards: Leaks from Lids

- a. There shall be no visible emissions from more than 1.5 percent of the lids at any time.

Note: This limit is more stringent than the limit for coke oven lids set by 35 IAC 212.443(e) (5 percent).

- b. Pursuant to the PSD permit, there shall be no visible emissions from more than 2 percent of the topside port lids (charging hole lids) at any time.
- c. Emissions to the atmosphere shall not exceed 0.25 percent leaking lids, as determined by the procedures in 40 CFR 63.309(d) (1).
- d. Pursuant to 40 CFR 63.304(b) (4) (ii), emissions to the atmosphere shall not exceed 0.4 percent leaking topside port lids, as determined by the procedures in 40 CFR 63.309(d) (1).

2.1.3-4 Applicable Standards: Leaks from Offtakes

- a. There shall be no visible emissions from more than 4.0 percent of the offtake piping at any time.

Note: This limit is more stringent than the limit for coke oven offtake piping set by 35 IAC 212.443(f) (10 percent) and the PSD permit (5 percent).

- b. Emissions to the atmosphere from offtakes shall not exceed 1.0 percent leaking offtake system(s), as determined by the procedures in 40 CFR 63.309(d) (1).

Note: This limit is more stringent than the limit set by the NESHAP. Pursuant to 40 CFR 63.304(b) (4) (iii), emissions to the atmosphere shall not exceed 2.5 percent leaking offtakes, as determined by the procedures in 40 CFR 63.309(d) (1).

2.1.3-5 Applicable Standards: Coke Oven Pushing

- a. Pursuant to 40 CFR 63.7290(a) (2), particulate matter emissions to the atmosphere from the control device for pushing shall not exceed 0.02 lb/ton of coke.

Note: This limit is more stringent than the limit for pushing set by the PSD permit (0.03 lb/ton coke).

- b. i. Pursuant to 40 CFR 63.7290(b)(3), the capture system for pushing shall be operated with flow rate at or above the minimum level established during the initial performance test, as demonstrated from either the daily average fan motor amperes or daily volumetric flow rate at the inlet of the control device, as elected in writing by the Permittee.
- ii. Pursuant to the PSD permit:
 - A. Not less than 90 percent of the emissions resulting from pushing coke from the ovens shall be captured and exhausted to a gas cleaning device.
 - B. The opacity of visible particulate matter escaping from the hoods used to capture pushing emissions shall not exceed 20 percent.
- iii. The opacity of visible particulate matter escaping from the hoods used to capture pushing emissions shall not exceed 20 percent averaged over the push, not to exceed 6 readings and a minimum of four pushes shall be observed per day.

Note: Pushing is also subject to work practice requirements pursuant to the NESHAP, 40 CFR 63 Subpart CCCCC, which are designed to reduce emissions from pushing. (Refer to Condition 2.1.5-1(a) and (b).)

2.1.3-6 Applicable Standards: Coke Quenching

- a. The concentration of total dissolved solids in the water used for quenching shall not exceed 900 mg/L, provided, however, a 200 mg/L allowance due to river fluctuation will be added to the limit not to exceed 1100 mg/L.

Note: This limit is more stringent than the limit set by the NESHAP (1,100 mg/L), PSD permit (1,500 mg/L) and 35 IAC 212.443(h) (1,200 mg/L).

- b. Makeup water for quenching shall only be acceptable quench water as defined at 40 CFR 63.7352 [40 CFR 63.7295(a)(2)].

Note: This requirement is more stringent than the requirement for the water used for quenching set by the PSD permit (clean makeup water, i.e., plant service water, is required) and by 35 IAC 212.443(h)(1) (use of untreated by-product plant effluent is prohibited).

c. Pursuant to 40 CFR 63.7295(b):

- i. The quench tower shall be equipped and maintained with baffles such that no more than 5 percent of the cross sectional area of the tower is uncovered or open to the sky [40 CFR 63.7295(b)(1)].

Note: This requirement is more stringent than the requirement for the quench tower set by the PSD permit (only requires baffled tower) and is identical to the requirements by 35 IAC 212.443(h)(1) (at least 95 percent coverage).

- ii. The baffles in the quench tower shall be washed at least once each day that the tower is used to quench coke except on days when the highest ambient temperature is less than 30°F, as provided by 40 CFR 63.7295(b)(2)(i) [40 CFR 63.7295(b)(2)].

2.1.3-7 Applicable Standards: Combustion Stack (Battery Stack)

a. The opacity of emissions from the combustion stack shall not exceed the following limits:

- i. When the battery is on a normal coking cycle, 15 percent opacity, daily average, pursuant to 40 CFR 63.7296(a).
- ii. A. When the battery is on an extended coking cycle, 15 percent opacity, daily average.

B. When the battery is on an extended coking cycle and the opacity exceeds 10 percent, daily average, the Permittee shall undertake an evaluation to determine how lower opacity from the combustion stack may be reliably achieved without unacceptable consequences, i.e., significant risk to equipment or personnel and without unreasonable consequences, i.e., a significant reduction in the operating capacity of the plant or a significant increase in operating costs.

Note: This limit is more stringent than the limit set by the NESHAP (20 percent).

- b. Emissions of particulate matter from the combustion stack shall not exceed 0.02 gr/dscf.

Note: This limit is more stringent than the limit for the combustion stack set by 35 IAC 212.443(g) (1) (0.05 gr/dscf) and the PSD permit (0.03 gr/dscf).

- c. The combustion stack is subject to 35 IAC 212.443(g) (2), which provides that:

- i. No person shall cause or allow the emission of particulate matter from a coke oven combustion stack to exceed 30 percent opacity, with compliance determined in accordance with USEPA Reference Method 9.

Note: Compliance with this standard may also be determined by a continuous opacity monitoring system. However, determinations of opacity by such a system would not invalidate the results of observations in accordance Method 9 for the same period of time.

- ii. A. Notwithstanding the above, as provided by a site-specific revision of Illinois' State Implementation Plan, opacity from a coke oven combustion stack may exceed 30 percent but must not exceed 60 percent during periods when underfire flues for an oven are pressurized for the purpose of identifying and repairing leaks at tie-in joints resulting from end-flue rehabilitation. Opacity in excess of 30 percent during such periods shall not occur more than 3 hours on any calendar day and shall not occur more than 20 hours per month based on a 12-month rolling average. In addition, if a stack test is performed while a coke oven is being repaired, this provision is not a defense to a finding of violation of 35 IAC 212.443(g) (1) or other applicable permit condition.
- B. As related to this provision, the Permittee shall keep written records identifying each oven repaired, type of repair, and the date, time and duration of all tie-in joint repair periods, which records shall be subject to the requirements of 35 IAC 212.324(g) (4) and (5).

Note: These requirements for the combustion stack during repairs, which are part of Illinois' State Implementation Plan (refer to 40 CFR 52.720(c)(150)(i)(B)), supersede the provisions of 35 IAC 212.443(g)(2), which would allow for up to three hours of opacity in excess of 30 percent per oven repaired and would not impose any limit on opacity during such periods (Refer to Attachment 5).

2.1.3-8 Applicable Standards: Waste Gas Disposal

- a. i. Pursuant to 40 CFR 63.307, the Permittee shall operate and properly maintain a bypass/bleeder stack flare system that is capable of controlling 120 percent of the normal gas flow generated by the affected battery.
- ii. Coke oven emissions shall not be vented to the atmosphere through bypass/bleeder stacks, except through the flare system or an alternative control device as described in 40 CFR 63.307(d).
- iii. Each flare installed pursuant to 40 CFR 63.307 shall meet the applicable requirements specified by 40 CFR 63.307(b) with compliance determined as specified by 40 CFR 63.309(h).
- b. Pursuant to 40 CFR 63.307(c), the flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 63.309(h)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

2.1.3-9 Applicable Standards: Transfer of Collected Dust

- a. i. Pursuant to 35 IAC 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.
- ii. Pursuant to 35 IAC 212.316(f), the opacity of fugitive emissions, if any, from the unloading and transporting of collected material shall not exceed 20 percent and such activity shall be addressed by the Permittee in its operating program for control of fugitive dust. (Refer to Condition 2.7.5(a).)

- iii. Notwithstanding the above, in the event of a malfunction or breakdown, the Permittee is authorized to continue operation of an affected unit in violation of the above state requirements as necessary to prevent risk of injury to personnel or severe damage to equipment as provided by 35 IAC 201.262 and 201.265. This authorization is subject to the following requirements:
 - A. The Permittee shall address these units and potential malfunction and breakdown of these units in its operating and maintenance plan and in its startup, shutdown and malfunction plan required by the NESHAP. (See Conditions 2.1.5-2 and 2.1.5-3.)
 - B. The Permittee shall maintain records for each malfunction or breakdown of a unit in which operation continues in violation of an applicable state requirement as described in 40 CFR 63.6(e) (3) (iii) through (iv).
 - C. The Permittee shall submit notifications and reports for each malfunction and breakdowns of these units in which operation continues in violation of an applicable state requirement as described in 40 CFR 63.10(d) (5).
 - D. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

2.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected units not being subject to 35 IAC Part 203 Subpart B, Visible Emission Limitations, because coke plants are exempted by 35 IAC 212.443(a).
- b. This permit is issued based on the affected units not being subject to 35 IAC Part 212 Subpart L, Particulate Matter Emissions From Process Emission Units, because coke plants are exempted by 35 IAC 212.441.

- c. This permit is issued based on the affected units not being subject to 35 IAC 218.301 as indicated in 35 IAC 218.302(c) because uncontrolled emissions of organic matter from the units are reduced by at least 85 percent by compliance with the NESHAP, 40 CFR 63 Subpart L.
- d. This permit is issued based on the affected units not being subject to 35 IAC 218 Subpart TT because of the exemption in 35 IAC 218.980(f).
- e. This permit is issued based on the affected units not being subject to 35 IAC 214.421 because it is superseded by the PSD permit limit on sulfur in the coke oven gas which can be emitted from the desulfurization plant.

2.1.5-1 Work Practices: Coking and Soaking Plans (40 CFR 63.7291 and 63.7294)

- a. The Permittee shall comply with the work practice standards for fugitive pushing emissions as specified by 40 CFR 63.7291. In particular,
 - i. The Permittee shall observe and record the opacity of fugitive pushing emissions as required by 40 CFR 63.7291(a)(1), (a)(3) and (a)(4).
 - ii. The Permittee shall undertake timely corrective action(s) in the event that the opacity of fugitive pushing emissions exceeds the applicable limit, as required by 40 CFR 63.7291(a)(5) through (a)(7).
 - iii. Pursuant to 40 CFR 63.7291(b), the Permittee may request to use an alternative to the work practice standards in 40 CFR 63.7291(a) using the procedure provided in 40 CFR 63.6(g).

Note: For this purpose, the applicable limit for the opacity of fugitive pushing emissions shall be 20 percent, as set by the PSD Permit, rather than 35 percent, as set by 40 CFR 63.7291. (Refer to Condition 2.1.3-5(b).)

- b. i. Pursuant to 40 CFR 63.7294(a), the Permittee shall operate the coke ovens pursuant to a written work practice plan for soaking (soaking plan), which includes the measures specified by 40 CFR 63.7294(a). For this

purpose, an initial soaking plan shall be submitted to the USEPA and Illinois EPA for review prior to resumption of operation of the battery based on design information and supplemented as needed with a revised soaking plan , which shall be based on actual observations of the operation of the battery submitted by July 1, 2006 or within 120 days of resumption of operation of the battery, whichever is later.

- ii. Pursuant to 40 CFR 63.7294(a)(4) and (5), if soaking emissions are caused by leaks from the collecting main, the Permittee shall take corrective actions to eliminate soaking emissions in accordance with the actions identified in the soaking work plan. If soaking emissions are not caused by leaks, the company must determine whether the soaking emissions are due to incomplete coking. If incomplete coking is the cause of the soaking emissions, the Permittee must put the oven back on the collecting main until it is completely coked or the Permittee must ignite the standpipe emissions as specified by 40 CFR 63.7294(a)(4) and (5).
- iii. Pursuant to 40 CFR 63.7294(b), the Permittee may request to use an alternative to the work practice standards in 40 CFR 63.7294(a) using the above procedure provided in 40 CFR 63.6(g).

2.1.5-2 Work Practices: Operation and Maintenance Plans

- a. Pursuant to 40 CFR 63.6(e)(1) and 40 CFR 63.7300(a), the Permittee shall maintain and operate each affected source that is subject to the NESHAP, 40 CFR Part 63, Subpart CCCCC or Subpart L, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions at least to the levels required by the applicable NESHAP.
- b. i. Pursuant to 40 CFR 63.7300(b), for affected units subject to the NESHAP, 40 CFR 63 Subpart CCCCC, the Permittee must prepare and operate at all times according to a written operation and maintenance plan for the general operation and maintenance of affected units (general plan), which plan shall address at a minimum the elements specified in 40 CFR 63.7300(b)

- ii. Pursuant to 40 CFR 63.7300(c), for pushing as subject to the NESHAP, 40 CFR 63 Subpart CCCCC, the Permittee must prepare and operate at all times according to a written operation and maintenance plan for each capture system and control device applied to pushing emissions (pushing plan), which plan shall address at a minimum the elements specified in 40 CFR 63.7300(c), including detailed inspections of capture systems on a monthly basis, preventative maintenance schedules for control devices, and procedures for expeditious corrective actions for baghouses in the event that the required bag leak detection system alarm is triggered.
- c. i. Pursuant to 40 CFR 63.306(a), for affected units subject to the NESHAP, 40 CFR 63 Subpart L, the Permittee shall maintain a written emission control work practice plan (work practice plan) for the affected battery designed to achieve compliance with visible emission limitations for doors, topside port lids, offtake systems, and charging operations under 40 CFR Subpart L. As provided by 40 CFR 63.306(a)(3), failure to implement one or more obligations under the plan and/or any recordkeeping requirement(s) under 40 CFR 63.311(f)(4) for an emission point during a particular day is a single violation.
- ii. Pursuant to 40 CFR 63.306(a)(1) and (b), the Permittee shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject to visible emission standards under 40 CFR Subpart L. Each of the following provisions, at a minimum, shall be addressed in the plan in sufficient detail and with sufficient specificity to allow USEPA and the Illinois EPA to evaluate the plan for completeness and enforceability:
 - A. An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of 40 CFR Subpart L, including work practice requirements, that includes all the elements specified

- by 40 CFR 63.306(b) (1). Contractors with responsibilities that impact emission control may be trained by the Permittee or by qualified contractor personnel; however, the Permittee shall ensure that the contractor training program complies with the requirements of 40 CFR 63.306(b) (1).
- B. Procedures for controlling emissions from coke oven doors, including the elements specified by 40 CFR 63.306(b) (2).
 - C. Procedures for controlling emissions from charging operations, including the elements specified by 40 CFR 63.306(b) (3).
 - D. Procedures for controlling emissions from topside port lids, including the elements specified by 40 CFR 63.306(b) (4).
 - E. Procedures for controlling emissions from offtake system(s), including the elements specified by 40 CFR 63.306(b) (5).
 - F. Procedures for each emission point subject to visible emission limitations under 40 CFR 63 Subpart L for maintaining, a daily record of the performance of plan requirements pertaining to the daily operation of the battery and its emission control equipment, including the elements specified by 40 CFR 63.306(b) (7).
 - G. Any additional work practices or requirements specified by the USEPA or Illinois EPA pursuant to 40 CFR 63.306(d).
- iii. Pursuant to 40 CFR 63.306(c) the Permittee shall implement the provisions of the work practice plan pertaining to a particular emission point:
- A. Following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such

exceedance from the certified observer. For this purpose, the second exceedance is "independent" if the criteria of 40 CFR 63.306(c)(1)(i)(A), (B) or (C) are met.

- B. And continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days. After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making the above determination of exceedances.
- iv. Revisions to the work practice plan are subject to the provisions in 40 CFR 63.306(a)(2) and (d), which provide that the Permittee shall submit any revision of the plan to the USEPA and Illinois EPA and that in certain circumstances, upon request by the USEPA or Illinois EPA, the Permittee shall expeditiously review and revise as needed the work practice plan for a particular emission point and the USEPA or Illinois EPA may disapprove a plan revision if it determines that the revised plan is inadequate.
- d. The affected battery is subject to 35 IAC 212.443, which provides that:
 - i. No person shall cause or allow the operation of a coke oven plant except in accordance with operating and maintenance work rules approved by the Illinois EPA [35 IAC 212.443(i)].
 - ii. No person shall cause or allow the operation of a coke oven unless there is on the plant premises at all times an adequate inventory of spare coke oven doors and seals and unless there is a readily available coke oven door repair facility. [35 IAC 212.443(d)(2)]

2.1.5-3 Work Practices: Startup, Shutdown and Malfunction Plans

- a. Pursuant to 40 CFR 63.7310, for affected units subject to the NESHAP, 40 CFR 63 Subpart CCCCC:

- i. The Permittee shall comply with the emission limitations, work practice standards, and operating and maintenance requirements of the NESHAP, 40 CFR 63 Subpart CCCCC, at all times except periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2.
 - ii. The Permittee shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in 40 CFR 63.6(e)(3).
- b. Pursuant to 40 CFR 63.310, for affected units subject to the NESHAP, 40 CFR 63 Subpart L:
 - i. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the affected units, and associated pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by standards under 40 CFR Subpart L. Failure to adhere to the requirement of 40 CFR 63.310 shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred.
 - ii. The Permittee shall develop and implement according to 40 CFR 63.310(c), a written startup, shutdown, and malfunction plan that describes procedures for operating the affected units, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable.
 - iii. Pursuant to 40 CFR 63.310(c), during a period of startup, shutdown, or malfunction the Permittee shall operate the battery (including associated air pollution control equipment) in accordance with the procedure specified in the startup, shutdown, and malfunction plan; and malfunctions shall be corrected as soon as practicable after their occurrence, in accordance with the plan.

- iv. Pursuant to 40 CFR 63.310(d), in order for the provisions of 40 CFR 63.310((i) to apply with respect to the observation (or set of observations) for a particular day, notification of a startup, shutdown, or a malfunction shall be made by the Permittee:
 - A. If practicable, to the certified observer if the observer is at the source during the occurrence; or to the enforcement agency (USEPA) and Illinois EPA, in writing, within 24 hours of the occurrence first being documented by personnel, and if the notification to the certified observer was not made, an explanation of why no such notification was made.
- v. Pursuant to 40 CFR 63.310(e), within 14 days of the notification made under 40 CFR 63.310(d), or after a startup or shutdown, the Permittee shall submit a written report to the applicable permitting authority (USEPA) and Illinois EPA that describes the time and circumstances of the startup, shutdown, or malfunction; and describes actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan.
- vi. To satisfy the requirement for a startup, shutdown, and malfunction plan, the Permittee may use the standard operating procedures manual for the battery, provided the manual meets all the requirements of 40 CFR 63.310 and is made available for inspection at reasonable times when requested by the Administrator (USEPA) or Illinois EPA, as provided by 40 CFR 63.310(g).
- vii. The USEPA or Illinois EPA may require reasonable revisions to a startup, shutdown, and malfunction plan as provided by 40 CFR 63.310(h).
- viii. Pursuant to 40 CR 63.310((i), if the Permittee demonstrates to the satisfaction of the Administrator (USEPA) that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not:
 - A. Constitute a violation of relevant requirements of 40 CFR 63 Subpart L;

- B. Be used in any compliance determination under 40 CFR 63.309; or
 - C. Be considered for purposes of 40 CFR 63.306 (the work practice plan), until the Administrator (USEPA) has resolved the claim that a startup, shutdown, or malfunction has occurred, as further provided by 40 CFR 63.310(i) (3).
- ix. The Permittee shall maintain all records related to startup, shutdown and malfunction, including of internal reports which form the basis of each malfunction notification under 40 CFR 63.310(d) as required by 40 CFR 63.310(f).

2.1.6 Operational and Emission Limitations

- a. The amount of coal charged to the affected battery shall not exceed 900,000 tons per year on a rolling 12-month basis and 2,765 tons/day (monthly average), measured as dry coal charged to the battery.
- b. The emissions from affected units shall not exceed the applicable limits in Attachment 1. For this purpose, emissions of combustion units (battery stack and flare) shall be addressed with combustion units (See also Condition 2.4.6).
- c. The Permittee shall install an electronic controller system (PROven System), which is capable of maintaining the collecting main under suction (negative pressure) and controlling the pressure of individual ovens depending on the stage of the coking cycle, independent of the pressure in the collecting main.

2.1.7-1 Inspection Requirements

- a. Pursuant to 40 CFR 63.308, for the collecting mains, the Permittee shall conduct daily inspections for leaks and promptly repair any leaks as specified by 40 CFR 63.308(a) through (d).
- b. Pursuant to 40 CFR 63.7295(b), for the quench tower, the Permittee shall perform inspections on at least a monthly basis for damaged or missing baffles and initiate repair or replacement within 30 days, which shall be completed as soon as practicable, as specified by 40 CFR 63.7295(b) (3) and (4).

2.1.7-2 Measurement Requirements

- a. Pursuant to 40 CFR 63.7333(f), the Permittee shall sample and analyze quench water for total dissolved solids on at least a weekly basis in accordance with the procedures specified by 40 CFR 63.7325(a).

2.1.7-3 Performance Testing Requirements

- a.
 - i. Pursuant to 40 CFR 63.309(a), daily performance tests shall be conducted by a certified observer each day, 7 days per week for the affected battery, as specified by 40 CFR 63.309, the results of which shall be used in accordance with procedures specified in 40 CFR 63 Subpart L to determine compliance with each of the applicable visible emission limitations for coke oven doors, topside port lids, offtake systems, and charging operations in 40 CFR 63 Subpart L.
 - ii. The Permittee shall enter into a contract providing for the inspections and performance tests required under the NESHAP, 40 CFR 63 Subpart L, to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the Permittee, during the period that the USEPA is the implementing agency.

Note: As the Illinois EPA has not entered into a delegation agreement with USEPA for the NESHAP, 40 CFR 63 Subpart L, the USEPA is the enforcement authority for provisions of 40 CFR 63 Subpart L related to the certified observer. If the Illinois EPA were to enter into such a delegation agreement, the Permittee would have to pay an inspection fee to the Illinois EPA in accordance with 40 CFR 63.309(a)(4) to defray the cost of the daily performance tests required under 40 CFR 63.309(a)

- A. The certified observer shall conduct daily performance tests according to the requirements specified in 40 CFR 63.309(c).
- B. Pursuant to 40 CFR 63.309(c) (3), upon request of the certified observer the Permittee shall demonstrate pursuant to

Reference Method 303 the accuracy of the pressure measurement device for the collecting mains and shall not adjust the pressure to a level below the range of normal operation during or prior to the inspection

- C. In no case shall the owner or operator knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or preventing observations by the certified observer, as prohibited by 40 CFR 63.309(c) (6).
- D. I. Pursuant to 40 CFR 63.309(e), the certified observer shall make available to the implementing agency and Illinois EPA, as well as to the Permittee, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to the Permittee as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination.
- II. Pursuant to 40 CFR 63.306(d) (3), if the certified observer calculates that a second exceedance (or if applicable, a second independent exceedance) has occurred, the certified observer shall notify the Permittee. No later than 10 days after receipt of such notification, the Permittee shall notify the administrator (USEPA) and Illinois EPA of any finding of whether work practices are related to the cause or solution of the problem.

Note: Pursuant to 40 CFR 63.306(d) (6), the reviewing authority (USEPA) may disapprove the submitted finding if it determines that a revised work practice plan is needed to prevent exceedances of the applicable visible emission limitations.

- iii. Pursuant to 40 CFR 63.309(f), compliance with the NESHAP, 40 CFR 63 Subpart L shall not be determined more often than the schedule provided for performance tests under 40 CFR 63.309. If additional valid emissions observations are obtained (or in the case of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under 40 CFR 63.309(d) or determinations under 40 CFR 63.306.
 - iv. Pursuant to 40 CFR 63.309(i), no observations obtained during any program for training or for certifying observers under 40 CFR 63 Subpart L shall be used to determine compliance with the requirements of 40 CFR 63 Subpart L or any other federally enforceable standard.
- b. i.
- A. The Permittee shall have performance tests conducted for particulate matter emissions from pushing (the baghouse system) and combustion stack, within 180 days of the resumption of operation of the battery, as specifically provided for the pushing baghouse by 40 CFR 63.7320. The methods and procedures specified by 40 CFR 63.7322(b)(1) through (4) shall be followed for the test for pushing, during which test, the Permittee shall determine operating limits for the pushing capture system as required by 40 CFR 63.7323. The methods and procedures specified by 35 IAC 212.108 shall be followed for the test for the combustion stack.
 - B. In conjunction with the test of the combustion stack, the Permittee shall also have measurements conducted for the NO_x and CO emissions. These measurements shall be conducted using appropriate USEPA Reference Test Methods.
 - C. In conjunction with the test for the pushing baghouse, the Permittee shall also have measurements conducted for metals. These measurements shall be conducted using USEPA Reference Method 29.

- ii. Subsequent performance test for pushing (the baghouse system) and the combustion stack, shall be conducted within approximately 24 months after the preceding test, as specifically provided for the pushing baghouse by 40 CFR 63.7321.
- iii. Performance tests for PM emissions from the pushing baghouse or PM, NO_x or CO emissions from the combustion stack shall also be conducted promptly upon a written request from the USEPA or Illinois EPA.

2.1.8 Monitoring Requirements

- a. For pushing, the Permittee shall at all times conduct continuous monitoring as follows, pursuant to the NESHAP, 40 CFR 63 Subpart CCCCC:
 - i. For the pushing baghouse, monitoring of the relative change in particulate matter loading using a bag leak detection system as required by 40 CFR 63.7330(a), which system shall meet the design requirements in 40 CFR 63.7331(a)(1) and (2) and shall be installed, operated and maintained by the Permittee in accordance with other applicable requirements of 40 CFR 63.7331(a), including equipping the system with an alarm that can be heard by appropriate plant personnel.
 - ii. For the capture system, monitoring of either fan motor amperes or volumetric flow rate at the inlet to the baghouse system, consistent with operating limit selected by the Permittee, which system shall be installed, operated and maintained by the Permittee in accordance with the applicable requirements of 40 CFR 63.7331(b) and 63.7332, including operation in accordance with a site-specific monitoring plan.
- b. For the combustion stack, the Permittee shall at all times monitor opacity using a Continuous Opacity Monitoring System (COMS) as required by the NESHAP, 40 CFR 63 Subpart CCCCC, 63.7330(e). Beginning on the applicable compliance date (currently April 14, 2006), such monitoring shall be conducted according to the requirements in 40 CFR 63.7331(i), including:

- i. The COMS shall be designed and maintained by the Permittee to meet Performance Specification 1 in 40 CFR 60, Appendix B, as demonstrated by a performance evaluation conducted by the Permittee according to the requirements in 40 CFR 63.8 and Performance Specification 1, as required by 40 CFR 63.7331(i)(1) and (2).
- ii. The Permittee shall install, operate and maintain the COMS in accordance with other requirements of 40 CFR 63.7331(i) and 63.7332, including operation in accordance with a site-specific quality control program, appropriate recordkeeping for the operation of the COMS, and appropriate procedures for data reduction.

Note: These monitoring requirements supersede provisions in prior permits that allowed the source to use a COMS to demonstrate compliance with 35 IAC 212.443(g)(2), as an alternative to conducting visual observations by USEPA Method 9. Notwithstanding these earlier provisions or the above requirements related to opacity monitoring, as specifically provided by 35 IAC 212.443(g)(2), a determination of opacity from the combustion stack made in accordance with USEPA Method 9 may be used to demonstrate compliance or noncompliance with 35 IAC 212.443(g)(2), notwithstanding any inconsistency with monitored opacity data.

2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected units:

- a. The Permittee shall maintain the following records for the composition of the coal charged to the ovens, determined in accordance with standard methods for analysis of coal, with supporting information:
 - i. Total sulfur content, percent by weight.
 - ii. Mercury content, percent by weight. This data shall be collected so that representative data is available for the coal being charged to the battery that correlates with the data on mercury content of coke oven gas that must be collected pursuant to Condition 2.2.7-1(c).

- iii. Moisture content, percent by weight, if the above information for sulfur and mercury content is recorded for coal on a wet basis.
- b. The Permittee shall maintain records related to the pushing including:
 - i. The applicable records required by 40 CFR 63.7334(a).
 - ii. Records for implementation of the soaking plan, as required by 40 CFR 63.7334(d).
- c. The Permittee shall maintain records related to the quenching operation including:
 - i. Records for the source of makeup water for the quench tower, as required by 40 CFR 63.7334(e)(3).
 - ii. Records for the weekly sample results of TDS content of quench water as required by 40 CFR 63.7333(f)(2).
 - iii. Records related to the washing of baffles on the quench tower, including ambient temperature on days when washing is not performed, as required by 40 CFR 63.7295(b)(2) and 63.7334(e)(1) and (2).
 - iv. Records related to the inspection and repair of baffles in the quench tower required 40 CFR 63.7295(b)(3) and (4) and 63.7334(e)(2).
- d. The Permittee shall maintain records for the flare system on bypass/bleeder stacks, including, the design drawings and engineering specifications for the system, as required by 40 CFR 63.311(f)(5).
- e. The Permittee shall maintain records related to operating and maintenance requirements including:
 - i. Copies of the operating and maintenance plans, including any revision to the plan, as required by 40 CFR 63.311 and 63.7335(d).
 - ii. Records generally documenting implementation of the plan, as required by 40 CFR 63.7335(a).
 - iii. Records documenting specific implementation of the plan, as required by 40 CFR 63.7335(b) and (c).

- iv. If the Permittee is required under 40 CFR 63.306(c) to implement the provisions of the work practice plan for a particular emission point subject to 40 CFR 63 Subpart L, the records regarding the implementation of plan requirements for that emission point during the implementation period as specified by 40 CFR 63.311(f).
- f. The Permittee shall maintain records related to start, shutdown and malfunction, including:
 - i. Copies of the start, shutdown and malfunction plans, including any revision to the plan, as required by 40 CFR 63.311 and 63.6(e).
 - ii. Records identifying and describing each startup, shutdown and malfunction for which the plan was triggered for affected units subject to the NESHAP, 40 CFR 63 Subpart L, including the records specified in 40 CFR 63.310(f) regarding the basis of each malfunction notification for affected units subject to the NESHAP, 40 CFR 63 Subpart L, and records documenting specific implementation of the plan.
 - iii. Records as specified by 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown and malfunction for affected units subject to the NESHAP, 40 CFR 63 Subpart CCCCC.
- g. The Permittee shall make records required to be maintained and reports required to be filed with the Administrator (USEPA) and Illinois EPA under 40 CFR Subpart L available in accordance with 40 CFR 63.311(g) to the authorized collective bargaining representative of the employees at the affected coke oven battery, for inspection and copying as provided by 40 CFR 63.311(g).
- h. The Permittee shall maintain the following operating records:
 - i. Monthly records of the number of charges for the coke oven battery and amount of the coal charged (tons/month, dry basis), with supporting data and calculations.

- ii. Records of the outage time of the sulfur removal system, with an estimate of the amount of flow to the emergency flare system (if other than maximum operation of the coke oven battery) (minutes).
- i. The Permittee shall maintain the following records related to emissions for individual affected units or groups of related units, other than combustion units, which are to be addressed with other combustion units (See Section 2.4):
 - i. Records for standard emission factors or emission rates used by the Permittee to determine emissions, which shall be based on testing of the affected units or similar units or material published by USEPA, with supporting documentation.
 - ii. Any additional operating records for the operation of affected units or composition of process materials (e.g., solids content of quench water) necessary to determine compliance with the emission limits in this permit, including the average duration of visible emissions during charging as determined by the certified observer on a daily basis.
 - iii. Records identifying the standard control measures implemented for affected units to the extent required by this permit or relied upon by the Permittee in determining emissions and records for each period when these standard measures were not implemented, including a description of the event, an estimate of control measures that were implemented during the event and an estimate of the additional emissions that occurred during the event.
 - iv. Records for emissions of affected units, in tons/month, based on the emission factors and other information contained in other required records, with supporting calculations.
- j. The Permittee shall maintain any other records required by the NESHAP, 40 CFR 63 Subparts A, L and CCCCC, including copies of each notification or report submitted pursuant to the NESHAP and the log required by 40 CFR 63.7310(b) for the period before the certification of continuous monitoring systems and setting of applicable operating limits for control systems.

2.1.10 Reporting Requirements

The Permittee shall submit the following notifications and reports for affected units:

- a. The Permittee shall submit reports to USEPA and the Illinois EPA to demonstrate initial compliance with the NESHAP, 40 CFR 63 Subpart CCCCC, in accordance with 40 CFR 63.7327 and 40 CFR 63.7328.
- b. The Permittee shall submit a report to the Illinois EPA within 45 days of the resumption of operation of the coke oven battery to verify initial compliance with requirements of this permit and the requirements of the NESHAP, 40 CFR 63 Subparts A, L, and CCCCC, which shall include a statement certifying that the work practice plan and startup, shutdown, and malfunction plan have been reviewed and revised as necessary.
- c. The Permittee shall submit quarterly compliance reports to the Illinois EPA that include:
 - i. For the battery stack (combustion stack), the information specified by 40 CFR 63.7341(b) for the stack and the associated COMS.
- d. The Permittee shall submit semi-annual reports to the Illinois EPA that include:
 - i. The compliance certification for affected units subject to the NESHAP, 40 CFR 63 Subpart L, that contains the information specified by 40 CFR 63.311(d), including:
 - A. Certification that no coke oven gas was vented, except through the bypass/bleeder stack flare system of a by-product coke oven battery during the reporting period or that a venting report has been submitted as required by 40 CFR 63.311(e).
 - B. Certification that a startup, shutdown, or malfunction event did not occur for a coke oven battery during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was submitted according to the requirements in 40 CFR 63.310(e); and

- C. Certification that work practices were implemented if applicable under 40 CFR 63.306.
- ii. The compliance report for affected units subject to the NESHAP, CFR 63 Subpart CCCCC (except the battery stack (combustion stack)), that contains the information specified by 40 CFR 63.7341(c).
- e. Pursuant to 40 CFR 63.311(e), the Permittee shall report any venting of coke oven gas through a bypass/bleeder stack that was not vented through the bypass/bleeder stack flare system to the Illinois EPA as soon as practicable but no later than 24 hours after the beginning of the event. A written report shall be submitted within 30 days of the event and shall include a description of the event and, if applicable, a copy of the notification for a hazardous substance release required pursuant 40 CFR 302.6.
- f. The Permittee shall make notifications for startups, shutdowns and malfunctions as follows:
 - i. For affected units subject to the NESHAP, 40 CFR 63 Subpart L, the Permittee shall submit notifications and reports as specified by 40 CFR 63.311(d) and (e).
 - ii. For affected units subject to the NESHAP, 40 CFR 63 Subpart CCCCC, for each event that is not consistent with the startup, shutdown and malfunction plan, the Permittee shall submit an immediate startup, shutdown and malfunction report in accordance with 40 CFR 63.10(d)(5)(ii), pursuant to 40 CFR 63.7341(d).
- g. The Permittee shall promptly notify the Illinois EPA, of other noncompliance of the affected units with permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
 - i. Notification as specified by the reporting provisions of the NESHAP for deviations from NESHAP requirements.
 - ii. Notification within 30 days for deviations from requirements in Condition 2.1.6.

- iii. Notification with the semi-annual compliance report required by Condition 2.1.10(d) for other deviations not addressed above. For this purpose, deviations do not need to be separately reported if contained in the body of the semi-annual compliance report, as provided by 40 CFR 63.7341(e).
- h. The Permittee shall fulfill other applicable notification and reporting requirements of the NESHAP, 40 CFR 63 Subparts A, L and CCCCC, with copies sent to the Illinois EPA.

2.1.11 Procedures to Determine Emissions

As of the date of permit issuance, the following emissions factors, as relied upon in the application, are considered acceptable for use in determining emissions from an affected unit when operating in a normal manner and shall be used for this purpose unless a more accurate factor or emission rate becomes available (e.g., approved test data for the plant). Notwithstanding Condition 2.1.9(i) (i), the Permittee need not keep documentation to support the use of the following factors.

- a. Emission Factors for Charging, Door Leaks, Lid Leaks, Offtakes and Uncaptured Pushing (lb/ton coal)

Operation	PM	PM ₁₀	SO ₂	VOM	NO _x	CO
Charging	^a	0.489 x PM ^b	0.02 ^{b,c}	2.5 ^{b,c}	0.03 ^{b,c}	0.6 ^{b,c}
Door Leaks	^a	0.94 x PM ^d	0.1 ^{e,c}	1.5 ^{b,c}	0.01 ^{b,c}	0.6 ^{b,c}
Lid Leaks	^a	0.94 x PM ^f	0.1 ^{e,c}	1.5 ^{e,c}	0.01 ^{e,c}	0.6 ^{f,c}
Oftakes	^a	0.94 x PM ^f	0.1 ^{e,c}	1.5 ^{e,c}	0.01 ^{e,c}	0.6 ^{f,c}
Uncaptured Pushing	1.15 ^{b,c}	0.433 x PM ^b	0.098 ^g	0.077 ^g	0.019 ^g	0.063 ^g

Notes:

- ^a PM emissions are calculated as follows
(Reference: *Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries-Background Information for Proposed Standards*; EPA-450/3-85-028a; Section 3.3.2.2, Tables 7-1, 7-2, 7-3; April 1987:

For Charging (tons/year):

$$PM = (T/300)^2 * 7500 * N * 0.0022 * 0.0005 / 1.1$$

Where: T = Average seconds/charge
N = Number of charges/year

For Door Leaks (tons/year):

$$PM = 11.2 * (PLD/70)^{1.5} * 0.19 * N * H * 2.2 * 0.0005 / 1.1$$

Where: PLD = Average percent leaking doors
 N = Number of leaks per battery
 H = Operating hours per year

For Lid Leaks (tons/year):

$$PM = 0.0033 * N * H * 2.2 * 0.0005 / 1.1$$

Where: N = Number of leaks per battery
 H = Operating hours per year

For Offtake Leaks (tons/year):

$$PM = 0.021 * N * H * 2.2 * 0.0005 / 1.1$$

Where: N = Number of leaks per battery
 H = Operating hours per year

^b Uncontrolled factors are from USEPA's
 Compilation of Air Pollutant Emission Factors,
 AP-42, Fifth Edition, (AP-42), Tables 12.2-2
 and 12.2-4, September 2000.

^c These emission factors may be adjusted to
 reflect the actual level of performance (e.g.,
 lower leaking door rates). For pollutants
 other than PM and PM₁₀, adjusted factors are
 calculated using control efficiencies applied
 to the above "uncontrolled" factors for
 Charging, Door Leaks, Lid Leaks, and Offtakes.
 Control efficiencies are calculated using
 applicable plant data (e.g. leak rate, charge
 time, etc.) and methods described in CAAPP
 permit application.

^d Factor derived from AIRS (See note e for
 complete reference).

^e Uncontrolled factors are from USEPA's AIRS
 Facility Subsystem Source Classification Codes
 and Emission Factor Listing For Criteria Air
 Pollutants, EPA-450/4-90-003, Page 90, March
 1990.

^f Factor assumed to be equal to factor for
 doors.

^g Factors are draft factors from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, (AP-42), Tables 12.2-9 and 12.2-4, September 2000.

b. Emission Factors for Pushing (stack)

Pollutant	Emission Factor (lb/ton of Coke)
PM/PM ₁₀	0.02

c. Emission Factors for Quenching

Pollutant	Emission Factor (lb/ton of Coal)
PM	0.45 ^a
PM ₁₀	PM x 0.098 ^b

Notes:

^a Factor is derived from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, (AP-42), Table 12.2-2, September 2000, using and interpolation of data.

^b Factor is from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, (AP-42), Table 12.2-4, September 2000.

d. Emission Factors for Combustion Stack

Pollutant	Emission Factor (lb/ton of Coal)
PM	0.05 ^a
PM ₁₀	PM x 0.959 ^b
SO ₂	^c
VOM	0.039 ^d
NO _x	1.88 ^d
CO	2.85 ^d

Notes:

^a Factor is derived from 1995 stack test data

^b Factor is from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Fifth Edition, (AP-42), Table 12.2-4, September 2000.

^c SO₂ emissions are to be determined from actual sulfur content of coke oven gas, assuming complete conversion of sulfur to SO₂.

^d Factor is from stack test data, 1993.

e. Emission Factors for Clean Coke Oven Gas Flare

Pollutant	Emission Factor (Lb/mmft ³)
PM	6.2 ^a
PM ₁₀	PM x 0.959 ^b
SO ₂	^c
VOM	1.2 ^a
NO _x	80.0 ^a
CO	18.4 ^a

Notes:

^a Factors are from USEPA's *AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing For Criteria Air Pollutants*, EPA-450/4-90-003, Page 23, March 1990.

^b Factor assumed to be the same as combustion stack.

^c SO₂ emissions are to be determined from actual sulfur content of coke oven gas, assuming complete conversion of sulfur to SO₂.

2.2. Unit 02 - Coke Oven By-Products Plant

2.2.1 Description

The by-products plant receives raw coke oven gas from the collecting mains of the coke battery and processes it through a series of process equipment. The first constituent removed and recovered from the raw gas is coal tar, which is collected by cooling the gas with a water spray. Sulfur and ammonia are then removed from the gas by the Takahax and Hirohax systems. (These materials are further processed at the source to produce solid ammonium sulfate.) Finally, light oil (a liquid mixture composed primarily of benzene, toluene, and xylene) is scrubbed from the gas with wash oil, which is then stripped to recover the light oil and the wash oil for reuse. The cleaned coke oven gas is then used as fuel in the coke oven battery and boilers.

As the by-products plant controls combustion emissions by removing components in coke oven gas, e.g., sulfur, the composition of coke oven gas is addressed with the by-products plant. The actual emissions from combustion of coke oven gas in the coke oven battery, boilers and flares are generally addressed later in Section 2.4 of this permit.

2.2.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control Equipment
02	By-Products Plant:	
	- Primary Coolers	Nitrogen Blanket
	- Tar Precipitators	"
	- Tar Decanter System	"
	- Desulfurization System	"
	- Ammonia Scrubbers	"
	- Ammonia System	"
	- Light Oil System	"
	- Wash Oil System	"
	- Flushing Liquor System	"
	- Misc. Sumps and Slop Tanks	"
	- Waste Water Treatment System	"

2.2.3 Applicability Provisions and Applicable Regulations

- a. i. The "affected units" for the purpose of these unit-specific conditions are the emission units described in Conditions 2.2.1 and 2.2.2.

- ii. The following affected units are also affected sources pursuant to the NESHAP for Coke By-Product Recovery Plants, 40 CFR Part 61, Subpart L: tar decanters, tar-intercepting sumps, flushing-liquor circulation tanks, light-oil sumps, light-oil condensers, light-oil decanters, wash-oil decanters and wash-oil circulation tanks.
- b. i. Pursuant to 40 CFR 61.132(a)(1), all openings on each process vessel and tar-intercepting sump shall be enclosed and sealed.
- ii. Pursuant to 40 CFR 61.132(a)(2), gases from each process vessel and tar-intercepting sump shall be ducted to a gas collection system, gas distribution system, or other enclosed point in the by-product recovery process where the benzene in the gas will be recovered or destroyed, except as follows. The benzene control system shall be designed and operated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in 40 CFR 61.245(c). This system can be designed as a closed, positive pressure, gas blanketing system.
 - A. A pressure relief device, vacuum relief device, an access hatch, and a sampling port may be installed, operated, and maintained on each process vessel and tar-intercepting sump. Each such access hatch and sampling port must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.
 - B. The portion of the liquid surface in each tar decanter necessary for the operation of a sludge conveyor may be left open to the atmosphere provided that a water leg seal is installed, operate, and maintain on the tar decanter roof near the sludge discharge chute to ensure enclosure of the major portion of liquid surface not necessary for the operation of such sludge conveyor.

- c. i. Pursuant to 40 CFR 61.133(a), the liquid surface of each light-oil sump shall be enclosed and sealed to form a closed system to contain emissions, except as follows.
 - A. A vent may be installed, operated, and maintained on the sump cover. Each vent pipe must be equipped with a water leg seal, a pressure relief device, or vacuum relief device.
 - B. An access hatch may be installed, operated, and maintained on the sump cover. Each access hatch must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.
 - C. The sump cover may be removed for periodic maintenance but must be replaced (with seal) at completion of the maintenance operation.
- ii. Pursuant to 40 CFR 61.133(b), steam or other gases shall not be vented from the by-product process to a light-oil sump.

2.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected plant not being subject to 35 IAC 218.301 as provided by 35 IAC 218.302(c), because uncontrolled emission of organic material must be reduced by at least 85 percent by compliance with the NESHAP, 40 CFR 61 Subpart L.
- b. This permit is issued based on the affected units not being subject to 218 Subpart TT, because coke oven and their by-product plants are exempted by 35 IAC 218.980(f).

2.2.5 Work Practice and Control Requirements

- a. i. The affected units shall be designed and operated as closed systems without any gaseous vents directly to the atmosphere except from pressure relief devices. This requirement for closed systems does not prohibit features on the affected units that are normally closed to the atmosphere but are necessary for the operation of the units, such as vacuum relief devices, access hatches and sampling ports, provided that such features are allowed by and operated to comply with the NESHAP.

- ii. All bleed or pressure release relief vents from the nitrogen blanketing system, other than emergency pressure relief devices, shall discharge back into the by-products plant.
 - iii. The exhaust from the light oil condenser shall discharge back into the by-products plant, the output coke oven gas from the plant, a flare, or other combustion system.
- b. Pursuant to 40 CFR 61.12(c), the Permittee shall maintain and operate each affected source that is subject to the NESHAP, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions.
- c. Pursuant to 40 CFR 61.132(b), (c), and (d), for each process vessel and tar-intercepting sump, as defined at 40 CFR 61.131, the Permittee shall:
- i. Monitor the connections and seals on each control system used to comply with 40 CFR 61.132(a) to determine whether it is operating with no detectable emissions, using the procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) and ductwork of the control system for evidence of visible defects such as gaps or tears.
 - A. This monitoring and inspection shall be conducted: (1) Following the installation of any control equipment, after the control system is repressurized with blanketing gas following removal of the cover or opening the access hatch on a source, and otherwise on at least a semiannual basis.
 - B. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by USEPA Reference Method 21, or if visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.
 - C. When a leak is detected, the Permittee shall repair it as soon as practicable, but not later than 15 calendar days after

it is detected. A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected.

- ii. Conduct a maintenance inspection of the associated control system on an annual basis for evidence of system abnormalities, such as blocked or plugged lines, sticking valves, plugged condensate traps, and other maintenance defects that could result in abnormal system operation. The Permittee shall make a first attempt at repair within 5 days, with repair within 15 days of detection.
- d. Pursuant to 40 CFR 61.133(c), for each light-oil sump, the Permittee shall monitor the connections and seals on each control system used to comply with 40 CFR 61.133(a) to determine whether it is operating with no detectable emissions, using the procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) for evidence of visible defects such as gaps or tears.
 - i. This monitoring and inspection shall be conducted following the installation of any control equipment, each time the cover on a sump is removed, and otherwise on at least a semiannual basis.
 - ii. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by USEPA Reference Method 21, a leak, or if visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.
 - iii. When a leak is detected, the Permittee shall repair it as soon as practicable, but not later than 15 calendar days after it is detected. A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected.

2.2.6-1 Limitations on Operation and Emissions

- a. i. The concentration of sulfur compounds in coke oven gas as burned at the source shall not exceed 35 grains per hundred dry standard cubic feet, expressed as hydrogen sulfide, as provided by PSD Permit EPA-5-79-A-9, Condition 5. (See Attachment 4)

Note: This limit is equivalent to a sulfur content of 32.9 grains per hundred dry standard cubic feet, expressed as sulfur.

- ii. If gaseous sulfur compounds are also emitted from the equipment used to recover and process sulfur compounds from the coke oven gas, these emissions shall be considered when determining compliance with the above limit.
- b. The emissions of the affected units shall not exceed the applicable limits in Attachment 1.

2.2.6-2 Requirements for Mercury Emissions

- a. i. The Permittee shall make a determination of the level of overall control achieved by the source for mercury, for the six-month period starting three months after resuming operation of the battery (i.e., months 4 through 9 of operation). For this purpose, the level of control shall be calculated from the amount of mercury contained in coke oven gas (which would be emitted to the atmosphere from the source when the gas is combusted) and the theoretical uncontrolled mercury emissions, based on the amount of mercury contained in the coal charged to the coke oven battery.
- ii. The Permittee shall submit a detailed report for this determination to the Illinois EPA within 30 days after the end of period to be addressed by this determination.
- b. i. If the above determination shows more than 10 percent of the potential mercury emissions lost to the atmosphere (less than 90 percent overall control), the Permittee shall undertake an evaluation to determine whether lower mercury emissions from the source may be achieved without unacceptable consequences, i.e., inability to comply with applicable emission limits and requirements or significant risk to equipment or personnel, and without unreasonable consequences, i.e., a significant reduction in the operating capacity of the plant or a significant increase in operating costs.

- ii. If this evaluation is required, the Permittee shall promptly begin this evaluation within 12 months after resuming operation of the source.
 - iii. Pursuant to this evaluation, the Permittee shall implement a program for enhanced control of mercury emissions as it is determined that the measures used at the source for control of mercury emissions can be enhanced without unacceptable or unreasonable consequences.
- c. i. A. The Permittee shall perform this evaluation in accordance with a written plan submitted to the Illinois EPA that addresses any timely comments provided by the Illinois EPA. For this purpose, comments from the Illinois EPA shall be considered timely if made within 45 days of submittal of any draft of the plan, the plan or proposed revisions of the plan.
- B. A draft of the Permittee's initial plan shall be submitted to the Illinois EPA for review and comment with the report required by Condition 2.2.6-2(a).
- ii. The plan shall provide for evaluation of the effect of change or variation in the manner of operation of the source, within the normal or feasible range, as it would likely improve the level of control achieved for mercury emissions, including the operating parameters of the byproducts plant.
- iii. If the above determination pursuant to Condition 2.2.6-2(a) shows more than 20 percent of the potential mercury emissions are lost to the atmosphere (less than 80 percent control), the evaluation shall also include an engineering review of possible physical changes to the source to enhance the level of control of mercury emissions, including both physical enhancements to installed equipment and installation of new equipment. For this purpose, the evaluation shall identify feasible changes that could be made to the source, and for each such change: (1) discuss the likely effectiveness of each such change, with a discussion of any further assessment that would be needed to more accurately predict its effectiveness, (2) address the

likely costs and other impacts of such changes, and (3) discuss any research or technical developments that are relevant to a implementation of or reliance upon such a change to enhance control of mercury emissions.

- d. i. The Permittee shall complete this evaluation and submit a detailed written report to the Illinois EPA within 24 months after resuming operation of the source. This report shall be accompanied by the Permittee's program for enhanced control of mercury emissions, with detailed explanation and justification. As physical changes to the source had to be or were addressed in its evaluation, the Permittee may submit a schedule for expeditious implementation of proposed physical changes to the source to enhance control of mercury emissions, either as part of its proposed enhancements or as contingency measures that it would only implement if initial measures are not as effective as predicted.
- ii. The deadline for completion of this evaluation may be extended by the Illinois EPA for up to 6 months as the Permittee demonstrates the need for additional time to fully evaluate either operational or physical enhancements to the measures for control of mercury emissions. As part of its request for such an extension, the Permittee must submit the above material as an interim report, accompanied by the Permittee's preliminary program for enhanced control of mercury emissions and a draft plan for the further evaluation that it would be conducting.
- e. i. No later than 6 months after submittal of its final report for this evaluation, the Permittee shall complete a new determination for the overall control of mercury emissions achieved by the source and report the results to the Illinois EPA.
- ii. If this determination shows more than 15 percent of the potential mercury emissions are still lost to the atmosphere (less than 85 percent control), the Permittee shall proceed to expeditiously implement the physical changes to the source to enhance control of

mercury emissions that were identified as contingency measures. Following implementation of such physical changes, the Permittee shall again perform a determination in accordance with Condition 2.2.6-2(a) and report the results to the Illinois EPA.

- f. The Permittee shall also submit copies of plans, reports and other submittals required by this condition to the Air and Radiation Branch of USEPA, Region 5.

Note: As necessary to assure effective control of mercury is achieved, the CAAPP permit for the source may specify operation requirements and accompanying compliance procedures for the measures used at the source to control mercury emissions.

2.2.7-1 Requirements for Sampling and Analysis of Coke Oven Gas

- a. The Permittee shall sample and analyze raw coke oven gas coming from the battery and cleaned coke oven gas from the byproducts plant for sulfur content in accordance with Paragraph (i) and Paragraph (ii) or (iii), below. For this purpose, analyses may be conducted by the Permittee or an outside laboratory, provided that the results from any out-side laboratory are available on-site no later than 30 days after a sample is taken.
 - i. Samples shall be analyzed for sulfur present in the form of hydrogen sulfide as follows:
 - A. Samples of cleaned coke oven gas shall be taken on at least a daily basis. If the analysis of the cleaned coke oven gas is conducted at the source and indicates a sulfur content in the gas that, when combined with the applicable value for organic sulfur content, as determined below, is greater than 80 percent of level required to show compliance with the applicable limit for sulfur content of the coke oven gas (Condition 2.2.6(a)) considering the most recent data available for the amount of other sulfur compounds contained in the coke oven gas, the Permittee shall analyze at least two more samples of coke oven gas, which shall be taken at approximately equal time intervals during the remainder of the day, to calculate an average hydrogen

sulfide content in the cleaned coke oven gas for such day. If the analysis is conducted by an outside laboratory, at least three samples of approximately equal volumes shall be taken each day at approximately equal time intervals during the day to produce a composite sample for analysis.

- B. During any outage of the continuous monitoring system required by Condition 2.2.8-1(a), samples of cleaned coke oven gas shall be taken at least once every two hours.
 - C. Samples of raw coke oven gas shall be taken on at least a weekly basis. For this purpose and other requirements related to sampling of "raw" coke oven gas, samples may be taken at an established sampling port located prior to the sulfur removal system in the by-products plant.
 - D. When raw coke oven gas is discharged to the emergency flare system, a sample of the raw coke oven gas shall be taken within two hours of the conclusion of the event, if such a sample has not otherwise been taken within the last 48 hours.
- ii. Samples shall be analyzed for other sulfur compounds present in forms other than hydrogen sulfide (i.e., organic sulfur content or total reduced sulfur) as follows:
- A. Samples of cleaned coke oven gas shall be taken on at least a daily basis.
 - B. Samples of raw coke oven gas shall be taken on at least a weekly basis.
 - C. When raw coke oven gas is discharged to the emergency flare system, a sample of the raw coke oven gas shall be taken within two hours of the conclusion of the event, if such a sample has not otherwise been taken within the last 48 hours, except if the total duration of the incident and any other incidents during the previous 90 days is less than one hour (60 minutes), in which case sampling is not required.

- iii. As an alternative to analysis for organic sulfur content in accordance with Paragraph (ii), above, the Permittee may sample and analyze for total sulfur content and determine the organic sulfur content of gas as the difference between total sulfur content and sulfur present as hydrogen sulfide.
- b. The Permittee shall sample and analyze raw coke oven gas coming from the battery and cleaned coke oven gas from the byproducts plant for ammonia content, in terms of the weight of ammonia/scf, as follows:
 - i. During the first six months following resumption of operation of the battery,
 - A. Samples shall be taken on a weekly basis.
 - B. Thereafter, samples of raw and clean gas shall be taken on a monthly basis, provided however that the Illinois EPA may allow sampling on a quarterly basis if the sampling for four quarters does not show significant variability.
 - ii. When raw coke oven gas is discharged to the emergency flare system, a sample shall be taken within two-hours of the conclusion of the event, if such a sample has not otherwise been taken within the last 48 hours (raw coke oven gas only), except if the total duration of the incident and any other incidents during the previous 90 days is less than one hour (60 minutes), in which case sampling is not required.
- c. The Permittee shall sample and analyze coke oven gas for mercury, in terms of the weight of mercury/scf, using sampling and analysis methods adopted by USEPA and approved by the Illinois EPA, as follows, unless the Permittee is conducting monitoring in accordance with Condition 2.2.8-2(a).
 - i. A. During the first 12 months following resumption of operation of the battery, samples of raw and cleaned coke oven gas shall be taken on a monthly basis.
 - B. If an evaluation must then be conducted pursuant to Condition 2.2.6-2, samples of raw and cleaned coke oven gas shall continue to be taken on a monthly basis.

- ii. Thereafter, samples of raw and clean gas shall be taken on a quarterly basis, provided however that the Illinois EPA may allow sampling on an annual basis if the sampling for eight quarters shows very low levels of mercury or does not show significant variability in levels of mercury emissions.
 - iii. Samples of raw and clean gas shall also be taken within 30 days of any change in the coal supply to the battery that is accompanied by a change of 10 percent or more in the mercury content of the coal charged to the battery. For this purpose, the Permittee shall rely upon published data for the mercury content of the new coal until data from actual analysis of the coal is available.
- d. In a CAAPP permit issued for the source, the Illinois EPA may revise the requirements for analysis of the composition of the coke oven gas for sulfur and mercury content based on the demonstrated variability in the composition of the gas and the effectiveness of monitoring, as required by Condition 2.2.8-1, in accurately addressing emissions of SO₂ and mercury.

2.2.8-1 Operational Monitoring Requirements

- a. The Permittee shall conduct operational monitoring to address the sulfur removal system in the byproducts plant, as follows:
 - i. A continuous monitoring system shall be installed, operated and maintained for measuring either the SO₂ emissions from burning coke oven gas (and an oxygen monitor to account for excess air of combustion) or the hydrogen sulfide (H₂S) contained in coke oven gas prior to burning.
 - ii. This monitoring system shall be installed, operated and maintained to comply with the following USEPA Performance Specifications with a performance evaluation conducted by the Permittee in accordance with 40 CFR 63.8 and the applicable performance specification within 60 days of the resumption of operation of the coke oven battery.
 - A. SO₂ - Performance Specification 2.

B. H₂S - Performance Specification 7.

- b. The Permittee shall monitor the pressure or flow of nitrogen in the nitrogen blanketing system.
- c. The Permittee shall monitor the exhaust gas temperature from each light-oil condenser.
- d. The Permittee shall monitor the flow of coke oven gas, in terms of scf, as follows:
 - i. Flow of gas from the byproducts plant (clean gas sent for combustion).
- e. The Permittee shall keep logs for the operation, calibration and maintenance of these operational monitoring devices.

2.2.8-2 Requirements for Monitoring Gas Composition

- a.
 - i. Except as provided below, within 24 months of the resumption of operation of the battery, the Permittee shall install, operate and maintain a continuous or semi-continuous monitoring system for measuring the mercury content of clean coke oven gas using the methodology and procedures developed and adopted by USEPA for monitoring of mercury emissions from coal-fired utility boilers.
 - ii. Such monitoring shall not be required if the Illinois EPA concurs with the Permittee's demonstration that either (1) the level of mercury contained in the cleaned coke oven gas, as measured pursuant to Condition 2.2.7-1(c), is less than 10 percent of the mercury contained in the raw coal (2) the level of mercury contained in cleaned coke gas would consistently be below the levels at which any applicable mercury monitoring techniques would be effective, or (3) the applicable monitoring techniques for mercury are technically infeasible as applied to coke oven gas. For this purpose, the Permittee shall submit its demonstration within 15 months of the resumption of operation of the battery, which shall contain the data on the mercury content of the coal supply to the battery, collected pursuant to Condition 2.1.9(a), the data collected on the mercury content of the coke oven gas, and, if applicable, a review of the applicable mercury monitoring techniques, with documentation for their ability to measure mercury.

- iii. The Permittee shall keep logs for the operation, calibration and maintenance of this monitoring system.

2.2.9 Recordkeeping Requirements

- a. The Permittee shall maintain records of the information specified by 40 CFR 61.138(a), which pertains to control equipment installed to comply with 40 CFR 61.132 and 61.133.
- b. The Permittee shall maintain records of the information specified by 40 CFR 61.138(b), which pertains to inspections required to be performed for affected sources subject to 40 CFR 61.132 and 40 CFR 61.133.
- c. The Permittee shall maintain records of continued operation of an affected unit during malfunctions and breakdown that at a minimum shall include:
 - i. Date and duration of the incident.
 - ii. A detailed explanation of the incident;
 - iii. An explanation why the damaged feature(s) could not be immediately repaired or the unit removed from service without risk of injury to personnel or severe damage to equipment.
 - iv. The measures used to reduce the quantity of emissions and the duration of the incident.
 - v. The steps taken to prevent similar incidents or reduce their frequency and severity.
 - vi. The emissions above typical emissions during the incident.
- d. i. The Permittee shall maintain the following records related to the composition of coke oven gas and SO₂, NO_x and mercury emissions from combustion or disposal of coke oven gas:
 - A. Records for the sulfur, ammonia, and mercury content of coke oven gas, as measured and monitored pursuant to Conditions 2.2.7 and 2.2.8(a).

- B. Records for standard control measures implemented for affected units to the extent required by this permit or relied upon by the Permittee when determining emissions and detailed records for each period when these measures were not implemented, including a description of the event, an estimate of the emission level during the event and an estimate of the additional emissions that occurred during the event.
 - C. Records for the sulfur content of cleaned coke oven gas expressed in terms of hydrogen sulfide, determined on a daily basis as the sum of the hydrogen sulfide and other sulfur compounds contained in the gas, with supporting calculations. For this purpose, until such time as it is determined through action on the CAAPP permit that reliable data for the amount of other sulfur compounds contained in the gas is available within four hours of sampling and can be correlated with the operating parameters of the sulfur removal system, the level of other sulfur compounds contained in the gas may be determined as the arithmetic average of the previous 60 days of data. Until such time as 60 days of data is available, the organic sulfur content of the clean coke oven gas may be assumed to be 20.5 gr/100 dscf, expressed in terms of hydrogen sulfide, the average level of organic sulfur content of clean coke oven gas provided in the application.
 - D. Records for emissions of SO₂ and mercury associated with burning coke oven gas, with supporting calculations.
 - E. Records for the emissions of NO_x attributable to the ammonia contained in raw coke oven that is burned.
- ii. For other emissions, the following records related to emissions for individual affected units or groups of related units:
- A. Records for the standard emission factors used for uncontrolled emissions from affected units used by the Permittee,

which shall be based on material published by USEPA, with supporting documentation.

- B. Records for the activity level of affected units as related to the applicable emission factors.
- C. Records for the standard control measures implemented for affected units to the extent required by this permit or relied upon by the Permittee for determining emissions and detailed records for each period when these measures were not implemented, including a description of the event, an estimate of control efficiency achieved during the event and an estimate of the additional emissions that occurred during the event.
- D. Records for emissions of affected units, based on the emission factors and other information contained in other required records, with supporting calculations.

Note: Recordkeeping for emissions associated with combustion of coke oven gas is contained in Condition 2.4.9(d).

2.2.10 Reporting Requirements

- a. The Permittee shall submit semiannual reports to the Administrator (USEPA) and Illinois EPA containing the information specified by 40 CFR 61.138(f)(1), (3) and (4), which relates to compliance with the NESHAP, 40 CFR 61, Subpart L.
- b. Pursuant to 35 IAC 201.263, the Permittee shall provide the following notifications and reports concerning continued operation of an affected unit during malfunction or breakdown of its control feature with emissions that exceed or may exceed an applicable state emissions standard:
 - i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three days, upon the occurrence of such an incident.
 - ii. Upon achievement of compliance, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional

Field Office, providing a detailed explanation of the event, an explanation why continued operation of the unit was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the unit was taken out of service.

- c. The Permittee shall promptly notify the Illinois EPA, of deviations with permit requirements by an affected unit as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.
 - i. Deviations involving malfunctions and breakdowns as specified by Condition 2.2.10(b).
 - ii. Deviations from Condition 2.2.6, which limits the sulfur content of coke oven gas in a quarterly report, which shall be submitted with 45 days of the end of the calendar quarter.
 - iii. Other deviations with the semiannual report required Condition 2.2.10(a), which shall include a summary of deviations for which separate notifications and reports were submitted.

2.2.11 Procedures to Determine Emissions

As of the date of permit issuance, the following emissions factors, as relied upon in the application, are considered acceptable for use in determining emissions from an affected unit when operating in a normal manner and shall be used for this purpose unless a more accurate factor or emission rate becomes available.

- a. Emission factor for the light oil condenser:

Pollutant	Emission Factor (lb/ton of Coke)
VOM	0.00375 ^a

Notes:

- ^a Factor derived from the uncontrolled factor for benzene emission and the expected control efficiency from a light oil condenser from

*Benzene Emissions from Coke By-Product Plants
- Background Information for Proposed
Standards, EPA-450/3-83-016a, May 1984, Tables
3-7 and 6.5, assuming that benzene constitutes
95 percent of the VOM emissions.*

2.3 Unit 03 – Storage Tanks and Loadout Facilities

2.3.1 Description

The source has storage tanks and loadout facilities for various liquid materials produced and handled by the byproducts plant. All tanks are above ground fixed roof tanks with capacities ranging up to 376,000 gallons. Organic material emissions from the storage tanks are controlled by a nitrogen blanketing system. Emissions from loadouts of light oil and tar are controlled by blanketing systems and vapor balance systems.

2.3.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
03	Storage Tanks	Nitrogen Blanket
	<ul style="list-style-type: none"> - Raw Liquor Storage Tank (B6102) - Enriched Ammonia Liquor Tank (B6104) - Strong Ammonia Liquor Tank (B6105) - Make-up Wash Oil Tank (B7102) - Tar Storage Tank (B9501A) - Tar Storage Tank (B9501B) - Primary Light Oil Tanks (B9601A, B9601B, B9601C, B9602A and B9602B) 	
	Light Oil Truck Loadout Facility-Tar Truck Loadout Facility	Nitrogen Blanket & Vapor Recovery System

2.3.3 Applicability Provisions and Applicable Regulations

- a. i. The "affected units" for the purpose of these unit-specific conditions are the units described in Conditions 2.3.1 and 2.3.2.
- ii. The following affected units are also affected sources pursuant to the NESHAP for Coke By-Product Recovery Plants, 40 CFR Part 61, Subpart L: tanks that store tar, benzene-toluene-xylene, light-oil, or excess ammonia liquor, as defined at 40 CFR 61.132.
- b. i. Pursuant to 40 CFR 61.132(a)(1) and (d), all openings on each affected storage tank that stores tar, benzene-toluene-xylene, light-oil, or excess ammonia liquor shall be enclosed and sealed.

ii. Pursuant to 40 CFR 61.132(a)(2), gases from each such storage tank shall be ducted to a gas collection system, gas distribution system, or other enclosed point in the by-product recovery process where the benzene in the gas will be recovered or destroyed, except as follows. The benzene control system shall be designed and operated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in 40 CFR 61.245(c). This system can be designed as a closed, positive pressure, gas blanketing system.

A. A pressure relief device, vacuum relief device, an access hatch, and a sampling port may be installed, operated, and maintained on each tank. Each such access hatch and sampling port must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.

2.3.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected storage tanks not being subject to 35 IAC 218.120 because of the exemption for vessels at coke by-product plants in 35 IAC 218.119(b).

2.3.5 Work Practices and Control Requirements

a. The Permittee shall maintain and operate each affected unit, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions, as specifically required for units subject to the NESHAP pursuant to 40 CFR 61.12(c).

2.3.6 Limitations on Operation and Emission

a. The emissions of the affected tanks and loadout facilities shall not exceed the applicable limits in Attachment 1.

2.3.7 Inspection and Testing Requirements

a. Pursuant to 40 CFR 61.132(b), (c), and (d), for each storage tank for tar, benzene, light-oil or excess ammonia liquor, the Permittee shall

- i. Monitor the connections and seals on each control system used to comply with 40 CFR 61.132(a) to determine whether it is operating with no detectable emissions, using the procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) and ductwork of the control system for evidence of visible defects such as gaps or tears.
 - A. This monitoring and inspection shall be conducted: (1) Following the installation of any control equipment, after the control system is repressurized with blanketing gas following removal of the cover or opening the access hatch on a source, and otherwise on at least a semiannual basis.
 - B. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by USEPA Reference Method 21, or if visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.
 - C. When a leak is detected, the Permittee shall repair it as soon as practicable, but not later than 15 calendar days after it is detected. A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected.
- ii. Conduct a maintenance inspection of the associated control system on an annual basis for evidence of system abnormalities, such as blocked or plugged lines, sticking valves, plugged condensate traps, and other maintenance defects that could result in abnormal system operation. The Permittee shall make a first attempt at repair within 5 days, with repair within 15 days of detection.

2.3.8 Monitoring Requirements

- a. The Permittee shall monitor the pressure, flow or other parameter, as appropriate, for the nitrogen blanketing system(s) for affected sources and the light-oil truck loading facility.

- b. The Permittee shall keep logs for the operation, calibration and maintenance of these monitoring devices.

2.3.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected units:

- a. The information specified by 40 CFR 61.138(a), which pertains to control equipment installed on affected sources to comply with 40 CFR 61.132.
- b. The information specified by 40 CFR 61.138(b), which pertains to inspections required to be performed for affected sources subject to 40 CFR 61.132.
- c. The following records related to emissions for individual affected units or groups of related units to determine compliance with applicable limits in Condition 2.3.6:
 - i. Records for the vapor pressure and other properties of material being handled as necessary to determine emissions.
 - ii. Records for the throughput of affected units as necessary to determine emissions.
 - iii. Records for standard control measures implemented for affected units to the extent required by this permit or relied upon by the Permittee in determining emissions and detailed records for each period when these standard measures were not implemented, including a description of the event, an estimate of control measures that were present during the event and an estimate of the additional emissions that occurred during the event.
 - iv. Records for emissions of affected units based on other required records and a methodology for determining emissions published by USEPA, such as the Tanks program, with supporting calculations.

2.3.10 Reporting Requirements

The Permittee shall submit the following notifications and reports for affected units.

- a. The Permittee shall submit semiannual reports to the Illinois EPA containing the information specified by 40 CFR 61.138(f)(1), (3) and (4), which relates to compliance with the NESHAP, 40 CFR 61, Subpart L.
- b. The Permittee shall promptly notify the Illinois EPA of deviations by an affected unit with permit requirements. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - i. Notification within 30 days following the occurrence of a violation of a control requirement or limitation in Conditions 2.3.3 or 2.3.6, with a copy of the relevant records for such incident.
 - ii. Notification with the semi-annual report required by Condition 2.3.10(a) for other deviations.

2.4 Unit 04 - Boilers and Other Combustion Equipment

2.4.1 Description

The source uses boilers to produce steam to run process equipment and generate electricity and for heating. The boilers combust natural gas and coke oven gas. The Permittee also operates a clean coke oven gas flare system to dispose of coke oven gas that cannot be safely used for heating the coke ovens or in the boilers.

As part of this project, the Permittee will be installing low NO_x burners in Boilers 1 and 4. It will also be replacing the associated steam turbine generator with a larger unit, so that the capacity of the turbine does not act to limit the amount of the coke oven gas burned in the boilers. The Permittee anticipates that with the larger turbine, less coke oven gas would be flared. This "extra" coke oven gas would be burned in the lower emitting boilers (as compared to flaring) and less natural gas would have to be burned in the boilers to make up for the extra coke oven gas.

2.4.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
04	Boilers	
	- Boiler 1 - 146 mmBtu/hr	Low NO _x Burner
	- Boiler 2 - 146 mmBtu/hr	None
	- Boiler 3 - 146 mmBtu/hr	None
	- Boiler 4B - 368 mmBtu/hr	Low NO _x Burner
	Other	
	- Clean Gas Flare System	Flare Design
	- Battery Combustion Stack*	Combustion

* Also addressed in Section 2.2, with the coke oven battery.

2.4.3 Applicability Provisions and Applicable Regulations

- a. i. The "affected units" for the purpose of these unit-specific conditions are the units listed in Condition 2.4.2.
- ii. A. Affected boiler 4B also is an affected facility pursuant to the federal NSPS, 40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971.

- B. Affected Boiler 4B is also a budget unit under the NO_x Trading Program, 35 IAC Part 217 Subpart U. For Boiler 4B, this permit shall be considered to constitute the budget permit required by 35 IAC 217.458 until such time as superseded by a budget permit contained in a CAAPP permit for the source.

Note: For each control period, after adjustment by 2 tons of NO_x allowances for the New Source Set Aside provisions of the NO_x Trading Program, 58 tons of NO_x allowances were allocated to the former owner of the plant, LTV Steel, for 4B Boiler. (Refer to 66 FR 56452, November 8, 2001.)

- b. Each affected boiler is subject to 35 IAC 216.121, which limits the emissions of carbon monoxide into the atmosphere from certain fuel combustion emission units to not more than 200 ppm, corrected to 50 percent excess air.
- c. The affected units are subject to the following standards for smoke or other particulate matter:
- i. Affected boilers 1, 2 and 3 and the clean gas flare system are each subject to 35 IAC 212.123, which limits the opacity of emissions on a 6-minute average to more than 30 percent, subject to certain exceptions in 35 IAC 212.123(b) and 212.124.
- ii. Affected boiler 4B is subject to 35 IAC 212.122, which limits the opacity of emissions on a 6-minute average to more than 20 percent, subject to the exception in 35 IAC 212.122(b) and 212.124.
- d. Pursuant to the NSPS, emissions into the atmosphere from affected boiler 4B are subject to and shall not exceed the following limits which apply at all times except during startup, shutdown and malfunction as defined by 40 CFR 60.1, as provided by 40 CFR 60.8(c):
- i. Particulate matter - 43 nanograms per joule heat input (0.10 lb per million Btu) derived from fossil fuel [40 CFR 60.42].

- ii. Opacity - 20 percent on a six-minute average, except for one six-minute period per hour of not more than 27 percent opacity [40 CFR 60.42].
- iii. Nitrogen oxides, expressed as NO₂ - 86 nanograms per joule heat input (0.20 lb per million Btu) derived from gaseous fossil fuel [40 CFR 60.44].

Note: Coke oven gas is not considered a fossil fuel.

- e. Pursuant to 35 IAC 201.262, the Permittee is authorized to operate an affected boiler in violation of 35 IAC 216.121 during startup, as the Permittee has affirmatively demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:
 - i. This authorization only extends for a period of up to four hours during each startup.
 - ii. The Permittee shall take the following measures to minimize startup emissions, the duration of startups, and minimize the frequency of startups:
 - A. Implementation of established startup procedures.
 - B. Proper boiler maintenance
 - iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 2.4.9(a).

2.4.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected boilers not being subject to the PM standard of 35 IAC 212.458(b) (1) because the source is located south of 111th Street in the City of Chicago.
- b. This permit is issued based on Boilers 1, 2 and 3 not being subject to the NO_x Trading Program, 35 IAC Part 217 Subpart U, because the rated heat input capacity of each boiler is less than 250 mmBtu/hr.

- c. i. This permit is issued based on Boiler 4B not being subject to the SO₂ standard of the NSPS, 40 CFR 60 Subpart D, because coke oven gas is not considered a fossil fuel under the NSPS, by USEPA, as coke oven gas is not derived from coal for the purpose of creating useful heat.
- ii. This Permit is issued based on Boiler 4B not being subject to the emission limits of the NSPS for particulate matter or nitrogen oxides as applied to burning of coke oven gas, or the opacity standard of the NSPS during periods when only coke oven gas is burned.
- iii. This permit is issued based on Boiler 4B not being subject to requirements for NO_x monitoring of the NSPS pursuant to 40 CFR 60.45(b)(3), because the initial performance test conducted for the boiler showed that NO_x emissions that were no more than 70 percent of the applicable standard.

2.4.5 Operational and Production Limits and Work Practices

- a. The Permittee shall maintain and operate each affected unit, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions, as specifically required for Boiler 4B by 40 CFR 60.11(d).
- b. Boilers 1 and 4B shall be equipped, operated, and maintained with low NO_x burners.
- c. i. For Boilers 2 and 3, either: (1) the annual capacity factor of the boiler shall not exceed 10 percent, or (2) the boiler shall be equipped and operated with low NO_x burners.
- ii. If additional operation of Boiler 2 or 3, beyond a 10 percent capacity factor, becomes necessary due to a planned, permanent shutdown of Boiler 1 or 4B, Boiler 2 or 3, as impacted, shall be equipped with low-NO_x burners prior to the permanent shutdown of the other boiler(s). Otherwise, if additional operation of Boiler 2 or 3, beyond a 10 percent capacity factor, becomes necessary due to emergency or temporary circumstances, the Permittee shall apply for a construction permit to address the operation of the boiler(s) without low NO_x burners or the expeditious installation of low NO_x burner on the boiler(s).

Note: As of the date of permit issuance, Boilers 2 and 3 are not equipped with low NO_x burners and must operate at an annual capacity factor of no more than 10 percent. Annual capacity factor is the ratio between the actual heat input to the boiler from the fuels burned during a calendar year, and the potential heat input to the boiler had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

2.4.6 Emission Limitations

- a. The affected boilers shall combust only natural gas or coke oven gas.
- b. The emissions from the affected units shall not exceed the applicable limits in Attachment 1.

2.4.7 Testing Requirements

- a. i. The Permittee shall have the opacity of the exhaust from the affected boilers and flares, which are not equipped with continuous opacity monitoring systems, determined by a qualified observer in accordance with USEPA Test Method 9 during representative operating conditions of the unit.
 - A. On an annual basis. For this purpose, opacity testing shall first be conducted within the first 250 hours of operation of a unit pursuant to this permit.
 - B. Upon written request by the Illinois EPA, such testing shall be conducted within 45 calendar days of the request, or on the date that the affected unit next operates, or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than 5.0 percent.
- iii. A. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of testing, in order to allow the Illinois EPA to witness testing. This notification shall include

the name and employer of the observer(s) and identify any concerns for successful completion of observations, i.e., lack of suitable point for proper observation or inability to conduct observations under specified operating conditions.

- B. The Permittee shall promptly notify the Illinois EPA of any changes in the date or time of testing.
- iv. The Permittee shall submit a written report for this testing within 15 days of the date of testing. This report shall include the following information:
 - A. Summary of results.
 - B. Name of certified observer(s), copy of their current certification(s), and name of employer.
 - C. Description of observation location and meteorological conditions.
 - D. Detailed description of the operating conditions of the affected unit during testing, including operating rate (mmBtu/hr).
- b. i. The Permittee shall have measurements of the NO_x and CO emissions of an affected boiler conducted by an approved independent testing service as follows:
 - A. Prior to relying on an emission factor for the boiler (other than Boiler 4B for NO_x) that is lower than identified in Condition 2.4.11, as is anticipated to occur for Boiler 1 following installation of low-NO_x burners; and
 - B. Within 90 days of a written request from the Illinois EPA.
- ii. Testing shall be performed using the following procedures:
 - A. The applicable methods specified by 40 CFR 60.46b shall be used for testing of NO_x emissions unless alternative test procedures are approved by USEPA pursuant to 40 CFR 60.8.

- B. The applicable methods specified by 40 CFR 60, Appendix A shall be used for testing CO emissions.
- iii. The Permittee shall submit a test plan to the Illinois EPA at least 60 days prior to testing.
- iv. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notification if it interferes with the Illinois EPA's ability to observe the testing.
- v. The Permittee shall submit the Final Report(s) for any required emission testing to the Illinois EPA within 45 days after the tests results are compiled and finalized but no later than 120 days after the date of testing. The Final Report shall include the following information:
 - A. A summary of results.
 - B. Detailed description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
 - C. Detailed description of the operating conditions of the affected boiler during testing, including fuel consumption (scf/hr) and firing rate (mmBtu/hr).
 - D. Detailed data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration

Note: Emission testing requirements for the combustion stack are contained Condition 2.1.7.

2.4.8 Monitoring Requirements

- a. The Permittee shall conduct continuous emissions monitoring for NO_x emissions from Boiler 4B in accordance with 40 CFR Part 96 Subpart H or, following prior notice to the Illinois EPA, determine NO_x emissions from Boiler 4B by implementing an alternative method authorized under 40 CFR Part 96, Subpart H.

2.4.9 Recordkeeping Requirements

The Permittee shall maintain the following records for affected units:

- a. The Permittee shall maintain the following procedures and logs for each affected boiler:
 - i. Written procedures for the operation of each affected boiler, including the startup procedures followed by the Permittee to minimize emissions during startups.
 - ii. An operating log for each affected boiler that shall include the following information:
 - A. Information for each startup and shutdown of the boiler, including date, time and duration, as specifically required for Boiler 4B by 40 CFR 60.7(b).
 - B. Information for any incident in which the operation of the affected boiler continued during malfunction or breakdown, including: date, time, and duration; a description of the incident; whether emissions exceeded or may have exceeded any applicable standard; a description of the corrective actions taken to reduce emissions and the duration of the incident; and a description of the preventative actions taken, as specifically addressed for Boiler 4B by 40 CFR 60.7(b).
 - C. Information identifying any deviation from Condition 2.4.6(a).
 - iii. A maintenance and repair log for each affected boiler, listing activities performed with date.

- b. The Permittee shall maintain records related to startup of each affected boiler that at a minimum shall include the following information for each startup:
 - i. Date and duration of the startup, i.e., start time and time normal operation achieved;
 - ii. If normal operation was not achieved within four hours, a detailed description of the startup and an explanation why startup could not be completed in four hours;
 - iii. If not followed, an explanation why established startup procedures could not be performed;
 - iv. Whether exceedances of 35 IAC 216.121 may have occurred during startup, with explanation and estimated duration.
- c. The Permittee shall maintain the following operating records for the affected units.
 - i. Monthly and annual natural gas and coke oven gas usage by the affected boilers (million scf, by gas type).
 - ii. Monthly and annual coke oven gas burned in the clean coke oven gas flare system for disposal.
- d. The Permittee shall maintain the following records related to emissions of affected units:
 - i. The following records related to SO₂ and mercury emissions from the affected units:
 - A. Records for the individual measurements for sulfur and mercury content of coke oven gas, as measured or monitored pursuant to Conditions 2.2.7 and 2.2.8(a), and records for the average monthly sulfur and mercury content, with supporting calculations.
 - B. Records for the amount of coke oven gas combusted in different affected units, scf/month, as necessary to determine emissions using the applicable data for sulfur and mercury content.

- C. Detailed records for each period when emissions were not fully accounted for by monitoring or periodic measurements, including a description of the event, an estimate of the emission level during the event and an estimate of the additional emissions that occurred during the event.
 - D. Records for emissions of affected units, tons/month, based on the information contained in other required records, with supporting calculations.
- ii. The following records related to NO_x emissions from Boiler 4B:
 - A. Records for operation and NO_x emissions as required by the NSPS, 40 CFR 60 Subpart D.
 - B. Records for NO_x emissions, tons/month, as determined by the continuous emissions monitoring system required by Condition 2.4.8(a).
- iii. For other emissions from the affected units, the following records related to emissions for individual affected units or groups of related units:
 - A. Records for the standard emission factors or emission rates used by the Permittee to determine emissions from affected units, which shall be developed from emission testing at the source or material published by USEPA, with supporting documentation.
 - B. Records for the monthly activity level of affected units as necessary to determine emissions using the applicable emission factors or emission rates.
 - C. Records for standard control measures implemented for affected units to the extent required by this permit or relied upon by the Permittee when determining emissions and detailed records for each period when these measures were not implemented, including a description of the event, an estimate of control efficiency or emission rate achieved

during the event and an estimate of the additional emissions that occurred during the event.

- D. Records for emissions of affected units, tons/month, based on the emission factors or emission rates and other information contained in other required records, with supporting calculations.

2.4.10 Reporting Requirements

- a. If the Permittee is relying on a continuous emissions monitoring system to determine NO_x emissions of Boiler 4B, the Permittee shall submit quarterly reports on NO_x emissions and operation of the monitoring system consistent with the reporting required by the NO_x Budget Program.
- b. The Permittee shall promptly notify the Illinois EPA of deviations from permit requirements by an affected unit, as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - i. Deviations from Condition 2.4.3(b), (c) or (d) or Condition 2.4.6 within 30 days.
 - ii. Other deviations with the semi-annual reports required for the source, which shall also include a summary of deviations that are subject to separate notification and reporting as provided above.

2.4.11 Procedures To Determine Emissions

- a. As of the date of permit issuance, the following emissions factors, as relied upon in the application, are considered acceptable emission factors for use in determining emissions from an affected unit when operating in a normal manner and shall be used for this purpose unless a more accurate factor becomes available, as would occur from representative emission testing conducted on the affected unit. Notwithstanding Condition 2.4.9(d) (iii) (A), the Permittee need not keep documentation to support the use of the following emission factors.

Emission Factors for Affected Boilers
(lb/million scf)

Fuel	PM/PM ₁₀	SO ₂	VOM	NO _x	CO
Natural Gas ^c	7.6	0.6	5.5	280 ^a	84
Coke Oven Gas ^d	6.2	^b	1.2	80 ^a	18.4

^a These NO_x emission factors are for Boilers 1, 2, and 3. NO_x emissions from Boiler 4B are to be determined from the monitoring conducted pursuant to Condition 2.4.8(a).

^b A factor is not included for SO₂, as SO₂ emissions from burning coke oven gas are to be determined from the actual sulfur content of the gas as determined by the sampling and analysis of the gas conducted pursuant to Condition 2.2.7(a).

^c The natural gas factors are from USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, Volume I, Supplement F, February 1998.

^d The coke oven gas factors for NO_x, CO, PM, and VOM (except for NO_x from Boiler 4B) are from the USEPA's *AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants*, 450/4-90-003 (AIRS Document).

b. For the purpose of determining SO₂ emissions from combustion of coke oven gas, complete conversion of sulfur to SO₂ shall be assumed, i.e., the mass of SO₂ emissions attributable to combustion of coke oven gas shall be assumed to be the mass of sulfur contained in the gas, expressed as sulfur, multiplied by 2.0.

2.5 Unit 05 - Leaking Components

2.5.1 Description

Organic material emissions occur from leaking exhausters and other components in the coke oven gas lines, leaking valves, pumps, and other components in the byproducts plant and gaseous and liquid leaks in other operations at the source. Emissions are controlled by the design of equipment and by requirements for periodic inspections of such equipment to detect leaks followed by prompt repair of any leaks.

2.5.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
05	Components with Potential to Leak	Leak Detection and Repair Program

2.5.3 Applicability Provisions and Applicable Regulations

- a. i. The "affected units" for the purpose of these unit-specific conditions are the units described in Conditions 2.5.1 and 2.5.2.
- ii. The following affected units are also affected sources pursuant to the NESHAP for Coke By-Product Recovery Plants, 40 CFR Part 61, Subpart L: pumps, valves, exhausters, pressure relief devices, sampling connection systems, open ended valves, and flanges and other connectors intended to operate in benzene service and control devices or systems required to comply with the NESHAP, 40 CFR 61.135, Standard: Equipment Leaks.

Note: Pursuant to the NESHAP, 40 CFR 61.135(a) and (b), affected sources must comply with the applicable requirements of 40 CFR 40 CFR 61, Subpart V (where a leak is defined by an instrument reading of 10,000 ppm or greater), except as otherwise provided by 40 CFR 61.135, and the Permittee must carry out the applicable compliance procedures of 40 CFR 61, Subpart V. In general, pursuant to these NESHAP, upon detection of a leak from an affected source, the Permittee must repair the leak as soon as practicable, but not later than 15 calendar days after the leak is detected, and a first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Specific provisions of

the NESHAP address specific types of components and circumstances further refining these general requirements. (See Condition 2.5.5.)

2.5.4 Non-Applicability of Regulations of Concern

None

2.5.5 Work Practice and Control Requirements

- a. Pursuant to 40 CFR 61.135(c), the Permittee shall mark each affected source in benzene service to which the NESHAP, 40 CFR 61 Subpart L, applies in a manner that it can be readily distinguished from other emission units in benzene service.
- b. Pursuant to 40 CFR 61.135(d), for each exhauster, the Permittee shall conduct quarterly monitoring to detect leaks and promptly repair any leaks, as provided by 40 CFR 61.135(d), except as provided below or otherwise approved by USEPA pursuant to 40 CFR 61.136(d).
 - i. Pursuant to 40 CFR 61.135(e), for an exhauster equipped with a seal system that includes a barrier fluid, the Permittee may implement the specific inspection, monitoring and repair provisions for such pumps in 40 CFR 61.135(e), provided that such exhauster fulfills all design and equipment requirements to qualify for such treatment
 - ii. Pursuant to 40 CFR 61.135(f), for an exhauster equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 61.242-11, the Permittee may conduct monitoring as specified by 40 CFR 61.135(g) to demonstrate that the pump operates with no detectable emissions so that it is exempt from other leak monitoring and repair requirements for exhausters.
 - iii. Pursuant to 40 CFR 61.135(g), for an exhauster that is designated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, the Permittee may conduct monitoring as specified by 40 CFR 61.135(g) to demonstrate that the pump operates with no detectable emissions.

- iv. Pursuant to 40 CFR 61.135(h), any exhauster that is in vacuum service is excluded from the requirements of 40 CFR Part 61 Subpart L if it is identified as required in 40 CFR 61.246(e) (5).
- c. Pursuant to 40 CFR 61.242-2(a), for each pump in VHAP/benzene service, the Permittee shall conduct weekly inspections and monthly monitoring to detect leaks and promptly repair any leaks, as provided by 40 CFR 61.242-2(b) and (c), except as provided below or otherwise approved by USEPA pursuant to 40 CFR 61.242-1(c).
 - i. Pursuant to 40 CFR 61.242-2(d), for a pump equipped with a dual mechanical seal system that includes a barrier fluid system, the Permittee may implement the specific inspection, monitoring and repair provisions for such pumps in 40 CFR 61.242-2(d), provided that such pump fulfills all design and equipment requirements for such treatment.
 - ii. Pursuant to 40 CFR 61.242-2(e), for a pump that is designated for no detectable emissions, as described in 40 CFR 61.246(e) (2), the Permittee may conduct monitoring as specified by 40 CFR 61.242-2(e) to demonstrate that the pump operates with no detectable emissions, provided that the pump fulfills all design and equipment requirements for such treatment.
 - iii. Pursuant to 40 CFR 61.242-2(f), a pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 61.242-11 is exempt from other leak monitoring and repair requirements for pumps.
 - iv. Pursuant to 40 CFR 61.242-2(g), for any pump that is located at an unmanned plant site, the Permittee is exempt from the daily and weekly visual inspection requirements, provided that the Permittee visually inspects the pump as often as practicable and at least monthly.
- d. i. Pursuant to 40 CFR 61.242-4(a), each pressure relief device in gas/vapor service in VHAP/benzene service shall be operated with no detectable emissions as indicated by an

instrument reading of less than 500 ppm above background, as measured by the method specified in 40 CFR 61.245(c), except during pressure releases, and after each pressure release, the Permittee shall return the pressure relief device to a condition of no detectable emissions and conduct monitoring as specified by 40 CFR 61.242-4(b)(2), except as provided below.

- A. Pursuant to 40 CFR 61.242-4(c), any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in 40 CFR 61.242-11 is exempt from the above requirements.
 - B. Pursuant to 40 CFR 61.242-4(d), any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the above requirements, provided that, after each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 61.242-10.
- ii. To facilitate compliance with Condition 2.5.5(d)(i), for each emergency pressure relief device subject to this condition, the Permittee shall either conduct monthly monitoring for leaks from the device or install and maintain instrumentation or a mechanism on the relief device to flag the occurrence of a pressure release. Such mechanisms shall be designed to reasonably alert operating personnel to the occurrence of a release considering the expected frequency for release and the ability of operating personnel to identify releases and regularly observe the condition of the relief device given the function and location of the device.
- e. Pursuant to 40 CFR 61.242-5(a), each sampling connection system in VHAP service shall be equipped with a closed-purge system or closed vent system that fulfills applicable requirements of 40 CFR 61.242-5(b), except as provided below or otherwise approved by USEPA pursuant to 40 CFR 61.242-1(c).

- i. Pursuant to 40 CFR 61.242-5(c), in-situ sampling systems and sampling systems without purges are exempt from these requirements.
- f. Pursuant to 40 CFR 61.242-6(a), each open-ended valve or line in VHAP service shall be equipped with a cap, blind flange, plug, or a second valve that fulfills applicable requirements of 40 CFR 61.242-6, except as provided in 40 CFR 61.242-6 or otherwise approved by USEPA pursuant to 40 CFR 61.242-1(c).
- g. Pursuant to 40 CFR 61.242-7(a), for each valve in VHAP/benzene service the Permittee shall conduct monthly monitoring to detect leaks (where a leak is defined by an instrument reading of 10,000 ppm or greater) and promptly repair any leaks as specified by 40 CFR 61.242-7(b) through (e), except as provided below or otherwise approved by USEPA pursuant to 40 CFR 61.242-1(c).
 - i. Pursuant to 40 CFR 61.242-7(f), for any valve that is designated for no detectable emissions, as described in 40 CFR 61.246(e)(2), the Permittee may conduct monitoring as specified by 40 CFR 61.242-7(f) to demonstrate that the valve operates with no detectable emissions, provided that the valve fulfills all design and equipment requirements for such treatment.
 - ii. Pursuant to 40 CFR 61.242-7(g), for any valve that is designated as an unsafe-to-monitor valve, as described in 40 CFR 61.246(f)(1), the Permittee may conduct monitoring in accordance with a written plan that requires monitoring as frequent as practicable during safe-to-monitor times as specified by 40 CFR 61.242-7(g)(2), provided that the valve meets the criteria for an unsafe-to-monitor valve.
 - iii. Pursuant to 40 CFR 61.242-7(h), for any valve that is designated as a difficult-to-monitor valve, as described in 40 CFR 61.246(f)(2), the Permittee may conduct monitoring in accordance with a written plan that requires monitoring at least once per year as specified by 40 CFR 61.242-7(h)(3), provided that the valve is located in an existing process unit and meets other criteria for a difficult-to-monitor valve.

- iv. Pursuant to 40 CFR 61.243-1, if the Permittee has elected to have all valves within a process unit comply with an allowable percentage of valves leaking of equal to or less than 2.0, the Permittee may implement the specific notification, testing, monitoring and repair provisions for such valves in 40 CFR 61.247(d) and 61.243-1.
- v. Pursuant to 40 CFR 61.243-2, if the Permittee has elected to have all valves within a process unit to comply with one of the alternative work practices specified in 40 CFR 61.243-2(b)(2) and (3) and has provided prior notice to the Illinois EPA in accordance with 40 CFR 61.247(d), the Permittee may implement the specific notification, testing, monitoring and repair provisions for such valves in 40 CFR 61.243-2.
- h. Pursuant to 40 CFR 61.242-8, for each pressure relief devices in liquid service in VHAP/benzene service and for each connector in VHAP/benzene service, the Permittee shall conduct monitoring and promptly repair any leaks as provided by 40 CFR 61.242-8, except as otherwise approved by USEPA pursuant to 40 CFR 61.242-1(c).

2.5.6 Limitations on Operation and Emissions

- a. Emissions from the affected units shall not exceed the applicable limits in Attachment 1.

2.5.7 Testing Requirements

None

2.5.8 Monitoring Requirements

None

2.5.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected units:

- a. Pursuant to 40 CFR 61.138(c), the Permittee shall comply with the recordkeeping requirements of 40 CFR 61.246, related to compliance with the NESHAP, including: (1) records identifying components subject to control requirements of the NESHAP, (2) records identifying certain components that are subject to

alternative control requirements under the NESHAP or are exempt from control requirements, (3) appropriate identification of each leaking component, (4) maintenance of a log with information for each leak that is detected, (5) records for the design of closed-vent systems, control devices, and associated operational monitoring systems, (6) records for the operation of closed-vent systems and control devices, and (7) records for performance and compliance tests conducted within the reporting period.

- b. The Permittee shall maintain the following records related to emissions for individual affected units or groups of related units:
 - i. Records for the standard emission factors used for uncontrolled emissions from affected units by the Permittee for determining emissions, which shall be based on material published by USEPA, with supporting documentation.
 - ii. Records for the activity level of affected units as related to the applicable emission factors.
 - iii. Records for the emission control efficiency achieved by standard control measures, with supporting documentation, and detailed records for each period when this control efficiency was not achieved, including a description of the event, an estimate of control efficiency achieved during the event and an estimate of the additional emissions that occurred during the event.
 - iv. Records for emissions of affected units, in tons/month, based on the emission factors and other information contained in required records, with supporting calculations.

2.5.10 Reporting Requirements

- a. The Permittee shall submit semiannual reports to the Illinois EPA containing the information specified by 40 CFR 61.138(f)(2), (4) and (6), which relates to compliance with the NESHAP, 40 CFR 61, Subpart L, by equipment in benzene service and includes the information specified by 40 CFR 61.247(b).
- b. The Permittee shall promptly notify the Illinois EPA of deviations with permit requirements by affected units as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Notification within 30 days for a deviation from Condition 2.5.6, with a copy of the relevant records.
- ii. Notification with the semi-annual report for other deviations, which shall also include a summary of deviations that are subject to separate notification and reporting as provided above.

2.5.11 Procedures to Determine Emissions

- a. As of the date of permit issuance, the following emissions factors, as relied upon in the application, are considered acceptable emission factors for use in determining emissions from an affected unit when operating in a normal manner and shall be used for this purpose unless a more accurate factor becomes available. Notwithstanding Condition 2.5.9(b) (i), the Permittee need not keep documentation to support the use of the following emission factors.

Uncontrolled Emission for Leaks (kg/component/day) *

Component Type	VOM
Valves	0.26
Pumps	2.7

* Factor from *Coke By-Product Recovery Plants - Background Information for Proposed Standards*, EPA-450/3-83-016a, May 1984, p. 3-43

2.6 Unit 06 - Miscellaneous Process Equipment

2.6.1 Description

The Permittee operates various systems that process or handle bulk materials that are exhausted through stacks or vents. Associated particulate matter (PM) emissions are controlled by baghouses (filters) or scrubbers.

2.6.2 List of Emission Units and Emission Control Equipment

Unit	Description	Emission Control
06	Lime Handling and Shaker	Baghouse
	Ammonium Sulfate Dryer	Scrubber
	Coal Handling Operations	
	- Breaker Building - Mixer Building - Bunker System	Breaker Baghouse Mixer Baghouse Bunker Baghouse
	Coke Handling Operations	
	- Screen House	Screen Baghouse

2.6.3 Applicability Provisions

- a. An "affected unit" for the purpose of these unit-specific conditions, is an individual process emission unit as described in Conditions 2.6.1 and 2.6.2.
- b. The Permittee is authorized to continue operation of an affected process in violation of the applicable requirements of Condition 2.6.4(b) (35 IAC 212.123) and Condition 2.6.4(d) (35 IAC 212.321(a)) in the event of a malfunction or breakdown of an affected process subject to the following provisions. This authorization is provided pursuant to 35 IAC 201.262 as the Permittee submitted in its CAAPP application "... proof that continued operation is required to provide essential service, prevent risk of injury to personnel or severe damage to equipment."
 - i. This authorization only allows such continued operation as necessary to provide essential service, prevent risk of injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee. As provided by 35 IAC 201.265, this authorization does not shield the Permittee from enforcement for any such violation and shall only constitute a prima facie defense to such an

enforcement action provided that the Permittee has fully complied with all associated terms and conditions.

- ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable repair the affected process or remove the affected process from service so that excess emissions cease. Unless the Permittee obtains an extension from the Illinois EPA, this shall be accomplished within 24 hours* or noon of the Illinois EPA's next business day*, whichever is later. The Permittee may obtain an extension for up to a total of 72 hours* from the Illinois EPA, Air Regional Office. The Illinois EPA, Air Compliance Section, in Springfield, may grant a longer extension if the Permittee demonstrates that extraordinary circumstances exist and the affected process can not reasonably be repaired or removed from service within the allowed time, the affected process can not be repaired or removed from service as soon as practicable; and the Permittee is taking all reasonable steps to minimize excess emissions, based on the actions that have been and will be taken.

* For this purpose and other related provisions, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the affected process out of service.

- iii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Condition 2.6.9(f) and 2.6.10(a).
- iv. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 IAC 201.263.

2.6.4 Applicable Emission Standards

- a. The affected units are subject to 35 IAC 212.301, which provides that no person shall cause or allow the emission of fugitive particulate matter, as defined by 35 IAC 211.2490, from any process that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source, except as provided by 35 IAC 212.314.
- b.
 - i. The affected units are subject to 35 IAC 212.316(f), which limits the opacity of fugitive particulate matter emissions from certain emission units to no more than 20 percent, on a 6-minute average.
 - ii. As an affected unit emits fugitive particulate matter, e.g., loadout of material, the affected process shall be addressed by the Permittee in its fugitive particulate matter operating program, as required by Condition 2.7.5, and be operated in accordance with such program.
- c.
 - i. Coal handling operations equipped with baghouses are subject to 35 IAC 212.458(b)(6), which provides that the opacity of certain coal handling systems equipped with baghouses shall each not exceed 5.0 percent.
 - ii. Pursuant to 35 IAC 212.458(d), the Permittee shall comply with the maintenance, repair and recordkeeping requirements in 35 IAC 212.324(f) and (g) for each coal handling operation equipped with a baghouse.
- d.
 - i. The affected units are each subject to 35 IAC 212.324(b), which provides no person shall cause or allow the emission into the atmosphere, of PM₁₀ from certain process emission units to exceed 68.7 mg/scm (0.03 gr/scf) during any one hour period.
 - ii. Pursuant to 35 IAC 212.324(d), the above mass emission limit shall not apply to an emission unit if it has no visible emissions other than fugitive particulate matter, provided, however, that this exception is not a defense to a finding of violation of the above mass limit determined by emission testing.

- e. The affected units are subject to 35 IAC 212.321(a), which provides that no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321 (c) or calculated in accordance with 35 IAC 212.321(b).

2.6.5 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected units not being subject to the NSPS for Nonmetallic Mineral Processing Plants, 40 CFR Part 60 Subpart 000, because the affected units do not meet the definition of nonmetallic mineral processing plant because there is no equipment used to crush or grind.

2.6.6 Work Practices, Operational Limits, and Emission Limitations

- a. The Permittee shall implement and maintain control measures for the affected units, including enclosure and dust collection devices that minimize visible emissions of particulate matter and provide assurance of compliance with the applicable emission standards in Condition 2.6.4.
- b. Emissions from the affected units shall not exceed the limitations in Attachment 1.

2.6.7-1 Testing Requirements

- a. i. The Permittee shall have the opacity of the exhaust from the affected units during representative weather and operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below.
 - A. For each affected unit, testing shall be conducted at least once every six months, provided however that if three such consecutive tests all show less than half of the most stringent opacity standard applying to a unit, opacity, testing for such unit shall be conducted at least once every twelve months. For this

purpose, testing of each affected unit shall first be conducted within six months of the resumption of operation pursuant to this permit.

- B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected unit(s) within 30 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than half the most stringent standard that applies to the unit.
- iii. A. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).
- B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.
- iv. The Permittee shall submit a written report for this testing within 15 days of the date of testing.
- b. i. The Permittee shall have the particulate matter emissions at the stacks or vents of affected unit(s) during representative operating conditions measured by a qualified testing service within 90 days of a written request from the Illinois EPA, as specified by such request.
- ii. Testing shall be conducted using USEPA Test Method 5, following timely submittal of a test protocol and notification of the date and time of testing to the Illinois EPA.
- iii. A complete report for the test shall be promptly submitted to the Illinois EPA following testing.

2.6.7-2 Instrumentation Requirements

- a. The Permittee shall install, operate and maintain instrumentation on the scrubber for the ammonium sulfate dryer to measure flow rate of scrubbant and pressure drop across the scrubber.
- b. The Permittee shall record the data from this instrumentation at least once every four hours that the ammonium sulfate dryer is operating unless the instrumentation is conducted to alarms, in which case the Permittee shall record the settings for the alarms and information for each event in which alarm(s) occur.

2.6.8 Inspection Requirements

- a. The Permittee shall perform inspections of the affected units on at least a weekly basis, including associated control measures, while the affected processes are in use, to confirm compliance with the requirements of Condition 2.6.6(a). These inspections shall be performed by personnel who are not directly involved in the day-to day operation of the affected units.
- b. The Permittee shall perform detailed inspections of the dust collection equipment for affected units at least every nine months while the units are out of service, with an initial inspection performed before any maintenance and repair activities are conducted during the period the unit is out of service and a follow-up inspection performed after any such activities are completed.

2.6.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected units:

- a. A record of the following design information, which shall be kept up to date:
 - i. Information related to the dust collection equipment associated with the affected units, including the performance specifications for filter material and maximum design particulate matter emissions, gr/dscf, with supporting documentation.

- ii. The maximum operating capacity of each affected unit, (ton/hour), with supporting documentation.
- b. A record of the following information related to emissions, which shall be kept up to date:
 - i. A detailed description of the control measures for the affected units currently being implemented by the Permittee pursuant to Condition 2.6.6(a) (which are referred to as the "established control measures" elsewhere in the provisions of this permit for the affected units) and the emission control efficiency or controlled emission factor achieved by these established control measures when determining emissions, with supporting documentation. Except as addressed by Condition 2.6.9(a)(i) or testing of an affected unit is conducted in accordance with Condition 2.6.7-1(b), these records for PM control efficiency or controlled PM emission factor shall be developed from material published by USEPA.
 - ii. For emissions from affected units that are not controlled or for which emissions are determined by applying a control efficiency to an uncontrolled emission factor, the standard emission factor(s) used for uncontrolled emissions from affected units by the Permittee, with supporting documentation. Except as developed from emission testing or material published by USEPA, these records for uncontrolled emission factors shall be accompanied by detailed support and explanation.
 - iii. A demonstration that, based on the above records, confirms that the above established control practices are sufficient to assure compliance with Conditions 2.6.4(d) and 2.6.6(b) at the maximum process weight rate at which each affected unit can be operated (tons/hour), based with supporting emission calculations and documentation for the emission factors and the efficiency of the control measures being relied upon by the Permittee.
- c. Records of the following for the inspections required by Condition 2.6.8.

- i. For the inspections required by Condition 2.6.8(a) for each affected unit:
 - A. Date and time the inspection was performed and name(s) of inspection personnel.
 - B. The observed condition of the control measures for each affected process, including the presence of any visible emissions or visible accumulations of process material in the vicinity of the process.
 - C. A description of any maintenance or repair associated with established control measures that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.
 - D. A summary of compliance compared to the established control measures.
- ii. For the inspections required by Condition 2.6.8(b) for the dust collection equipment for each affected unit:
 - A. Date and time the inspection was performed and name(s) of inspection personnel.
 - B. The observed condition of the equipment.
 - C. A summary of the maintenance and repair that is to be or was conducted on the equipment.
 - D. A description of any maintenance or repair that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

- E. A summary of the observed condition of the equipment as related to its ability to reliably and effectively control emissions.
- d. Records of the following for each incident when any affected unit operated without the established control measures:
 - i. The date of the incident and identification of the affected unit(s) that were involved.
 - ii. A description of the incident, including the established control measures that were not present or implemented; the established control measures that were present, if any; other control measures or mitigation measures that were implemented, if any; and the magnitude of the PM emissions during the incident.
 - iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.
 - iv. The length of time after the incident was identified that the affected unit(s) continued to operate before established control measures were in place or the operations were shutdown (to resume operation only after established control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a description of any mitigation measures that were implemented during the incident.
 - v. The estimated total duration of the incident, i.e., the total length of time that the affected unit(s) ran without established control measures and the estimated amount of material processed during the incident.
 - vi. A discussion of the probable cause of the incident and any preventative measures taken.
 - vii. A discussion whether Condition 2.6.4(b) may have been violated during the incident, with supporting explanation as needed.

- e. A maintenance and repair log for each item of air pollution control equipment, i.e., each dust suppressant application system and each dust collection device, associated with affected unit(s). This log shall list the date and nature of maintenance and repair activities performed on the item of equipment.
- f. Pursuant to 35 IAC 201.263, records for each incident when operation of an affected unit continued during malfunction or breakdown with emissions that may have violated an applicable State emission standard, as provided by Condition 2.6.3(b), that include the following:
 - i. Date and duration of the incident.
 - ii. A description of the incident.
 - iii. The corrective actions used to reduce the quantity of emissions and the duration of the incident.
 - iv. Confirmation of fulfillment of the requirements of Condition 2.6.10(a), as applicable, including copies of follow-up reports submitted pursuant to Condition 2.6.10(a)(ii).
 - v. An explanation why continued operation of the affected unit was necessary.
 - vi. The preventative measures planned or taken to prevent similar incidents or reduce their frequency and severity.
 - vii. An estimate of the magnitude of excess emissions occurring during the incident.
- g. Records for all opacity measurements made in accordance with USEPA Method 9 for the affected units that the Permittee conducts or that are conducted on its behalf by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 2.6.7, or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

- h. The following records related to emissions for individual affected units or groups of related units:
 - i. Records for the activity level of affected units as related to the applicable emission factors addressed by Condition 2.6.9(b) (i) or (ii).
 - ii. Detailed records for each period when established control measures were not implemented so the associated control efficiency or controlled emission factor was not achieved, including a description of the event, an estimate of control efficiency achieved during the event and an estimate of the additional emissions that occurred during the event.
 - iii. Records for emissions of affected units, in ton/month, based on the emission factors and other information contained in other required records, with supporting calculations.

2.6.10 Reporting Requirements

- a. Pursuant to 35 IAC 201.263, the Permittee shall provide the following notifications and reports to the Illinois EPA, concerning incidents when operation of an affected unit continues during malfunction or breakdown with emissions that exceed or may exceed an applicable state standard as addressed by Condition 2.6.3(b).
 - i. The Permittee shall notify the Illinois EPA's Regional Office, by telephone (voice, facsimile or electronic) as soon as possible during normal working hours for each incident in which the opacity from an affected unit exceeds or may have exceeded 20 percent for more than three consecutive 6-minute averaging periods. (Otherwise, if opacity during a malfunction or breakdown incident only exceeds or may have exceeded 20 percent for no more than three 6-minute averaging periods, the Permittee need only report the incident in the quarterly report, in accordance with Condition 2.6.10(a).)
 - ii. Upon conclusion of each such incident, the Permittee shall submit a follow-up report to the Illinois EPA, Compliance Section and Regional Office, within 15 days providing a

detailed explanation of the event, an explanation why continued operation of an affected process was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected unit was taken out of service.

- b. The Permittee shall promptly notify the Illinois EPA of deviations by affected units with permit requirements as follows. Such notifications shall include a description of each incident and a discussion of the probable cause of deviation, any corrective actions taken and any preventative measures taken.
 - i. Notification as specified by Condition 2.6.10(a) for deviations related to malfunction and breakdown.
 - ii. Notification within 30 days for deviations from requirements in Condition 2.6.6.
 - iii. Notification with a semi-annual compliance report for other deviations not addressed above.

2.7 Unit 07 - Roads, Storage Piles and Other Sources of Fugitive Dust

2.7.1 Description

The source emits fugitive particulate matter (dust) from vehicle travel on roads and parking lots and from its bulk material storage and handling operations.

2.7.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
07	<ul style="list-style-type: none"> - Paved and unpaved roads - Parking lots - Coal, coke and other bulk material handling and storage 	Fugitive Dust Control Program

2.7.3 Applicability Provisions and Applicable Regulations

- a. The "affected units" for the purpose of these unit-specific conditions, are the units described in Conditions 2.7.1 and 2.7.2.
- b.
 - i. The affected units are subject to 35 IAC 212.301, which provides that no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
 - ii. Notwithstanding the above, pursuant to 35 IAC 212.314, the above limit shall not apply and spraying to control fugitive dust pursuant to 35 IAC 212.304 through 212.310 and 212.312 shall not be required when the wind speed is greater than 25 mile/hour (40.2 km/hr), as determined in accordance with the provisions of 35 IAC 212.314.
- c. The affected units are subject to 35 IAC 212.324(b), which provides no person shall cause or allow the emission into the atmosphere, of PM₁₀ from certain process emission units to exceed 68.7 mg/scm (0.03 gr/scf) during any one hour period. Pursuant to 35 IAC 212.324(d), compliance with this limit may be shown by the absence of any visible emissions, other than fugitive particulate matter, provided however that if a stack test is performed, the absence of visible emissions is not a defense to a violation of this limit.

- d. The affected units are subject to 35 IAC 212.306, which provides that all normal traffic pattern access areas surrounding storage piles specified in 35 IAC 212.304 and all normal traffic pattern roads and parking facilities shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 212.309, 212.310 and 212.312.
- e. The affected units are subject to 35 IAC 212.316, which provides that no person shall cause or allow the opacity of fugitive particulate matter emissions at certain sources to exceed the following limits:
 - i. 10 percent from any crushing or screening of slag, stone, coke or coal based on six minute averaging [35 IAC 212.316(b)].
 - ii. 10 percent from any roadway or parking area based on averaging as described in 35 IAC 212.109 [35 IAC 212.316(c)].
 - iii. 10 percent from any storage pile, to be measured four feet from the pile surface based on six minute averaging [35 IAC 212.316(d)].
 - iv. 20 percent for emission units not addressed above based on six minute averaging [35 IAC 212.316(f)].
- f. Pursuant to 35 IAC 212.308, crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with the operating program (See Condition 2.7.5(a)).

2.7.4 Non-Applicability of Regulations of Concern

None

2.7.5 Control and Operating Requirements

- a. Pursuant to 35 IAC 212.309, affected units that are subject to a requirement in 35 IAC 212.304 through 212.308 or 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 IAC 212.310 and 212.312, and prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
 - i. As a minimum the operating program shall include the information and elements specified by 35 IAC 212.310, including: (1) a detailed description of the best management practices utilized to control fugitive dust; (2) estimated frequency of application of dust suppressants by location; and (3) such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
 - ii. This program shall also identify the specific control measures as may be needed to ensure that affected units comply with the opacity limits of 35 IAC 212.316. (Refer to Condition 2.7.3(e).)
 - iii. Pursuant to 35 IAC 212.312, this operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with 35 IAC Part 212 Subpart K and shall be submitted to the Illinois EPA for its review.

2.7.6 Limitations on Operation and Emission

- a. The emissions from the affected units shall not exceed the applicable limitations in Attachment 1.
- b.
 - i. The emissions of fugitive dust from roadways and parking lots shall not exceed 10.0 tons/year, total.
 - ii. The emissions of fugitive dust from stockpiles shall not exceed 1.5 tons/year, total.
 - iii. Notwithstanding the above requirements, which reflect the emission data used in Illinois' attainment demonstration for the PM₁₀ air quality standards for the Lake Calumet area,

higher limitations may be established by the Illinois EPA for these affected units if a revised attainment demonstration is approved by USEPA that reflects higher emission rates for these units.

2.7.7 Measurement and Testing Requirements

- a. i. The Permittee shall have the opacity of the emissions from each category of affected unit during representative weather and operating conditions determined by a qualified observer in accordance with USEPA Test Method 9, as further specified below.
 - A. For each category of affected unit, testing shall be conducted at least once every six months, provided however that if three such consecutive tests all show less than half the most stringent opacity standard that applies to a unit, testing of such category of unit shall be conducted at least once every twelve months. For this purpose, testing shall first be conducted within six months of the resumption of operation pursuant to this permit.
 - B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected unit(s) within 30 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) unless the average opacities for the first 12 minutes of observations (two six-minute averages) are both less than half the most stringent opacity standard that is applicable.
- iii. A. The Permittee shall notify the Illinois EPA at least 7 days in advance of the date and time of these tests, in order to allow the Illinois EPA to witness testing. This notification shall include the name and employer of the qualified observer(s).

- B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for testing.
- iv. The Permittee shall submit a written report for this testing within 15 days of the date of testing.

2.7.8 Inspection Requirements

- a. The Permittee shall perform inspections of the affected units on at least a weekly basis, including associated control measures, while the affected processes are in use, to confirm compliance with the requirements of Condition 2.7.5. These inspections shall be performed by personnel who are not directly involved in the day-to day operation of the affected units.

2.7.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected units:

- a. Pursuant to 35 IAC 212.316(g)(1) and (2), the Permittee shall maintain records of the application of control measures as may be needed for compliance with the opacity limits of 35 IAC 212.316 (Condition 2.7.3(e)), which records shall include at least the information specified by 35 IAC 212.316(g)(2), including: (1) information on each application of water or chemical suppressant to roadways, (2) information for other applications of dust suppressants, and (3) a log for incidents when control measures were not used, with explanation, including periods when control measures were not applied based upon a belief that application of such control measures would be unreasonable given prevailing atmospheric condition (precipitation, freezing temperature, etc.).
- b. The Permittee shall maintain records for each period of time when it relies upon the exemption provided by 35 IAC 212.314 to not to comply with 35 IAC 212.301 or implement measures otherwise required by 35 IAC 212.304 through 212.310, or 212.312, with supporting documentation for the determination of wind speed.
- c. The Permittee shall maintain records for all opacity measurements made in accordance with USEPA Method 9 for the affected units that the Permittee conducts or that are conducted on its behest by individuals who

are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 2.7.7, or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the affected unit, the observed opacity, and copies of the raw data sheets for the measurements.

- d. i. The Permittee shall maintain the following records related to emissions of fugitive particulate matter from individual affected units or groups of related units attributable to handling and storage of materials. As records of certain information are to be kept in a file, the Permittee shall review and update such information on a periodic basis so that the file contains accurate information addressing the current circumstances of the source.
 - A. A file that contains information for the emission control efficiency or controlled emission factors (lb/ton), as achieved by the standard management practices implemented by the Permittee pursuant to its operating program, used by the Permittee to determine emissions, which information shall be based on methodology for estimating emissions published by USEPA, with supporting explanation and calculations.
 - B. For emission from affected units that are not controlled or for which emissions are determined by applying a control efficiency to an uncontrolled emission factor, information for the standard emission factors (lb/ton) used by the Permittee for estimating uncontrolled emissions from such units, which information shall be based on methodology for estimating emissions published by USEPA, with supporting explanation and calculations.
 - C. Records for the amount of coal, coke, and other bulk materials handled by the affected units (ton/month, by type of material) or activity level of various affected units as related to the applicable emission factors, on a monthly basis.

- D. Detailed records for each period when standard management practices were not implemented, so the associated control efficiency or controlled emission factor was not achieved including a description of the event, an estimate of control measures that were present during the event and an estimate of the additional emissions that occurred during the event.
 - E. Records for emissions, in ton/month, based on the emission factors and other information contained in other required records, with supporting calculations.
- ii. The Permittee shall maintain the following records related to emissions of fugitive particulate matter from roadways and other affected units attributable to vehicular activity and other activities not addressed in the records required by Condition 2.7.9(d)(i). As records of certain information are to be kept in a file, the Permittee shall review and update such information on a periodic basis so that the file contains accurate information addressing the current circumstances of the source.
- A. A file that contains information on the length and state of road segments at the plant, the area and state of other open areas at the source traveled by vehicles, and the characteristics of the various categories of vehicles present at the source as necessary to determine emissions.
 - B. A file that contains information for the emission control efficiency or controlled emission factors (lb/vehicle mile traveled) achieved by the standard management practices implemented by the Permittee pursuant to its operating program for the various categories of vehicles on the road segments and open areas at the source, based on methodology for estimating emissions published by USEPA, with supporting explanation and calculations.

- C. For emission that are not controlled or for which emissions are determined by applying a control efficiency to an uncontrolled emission factor, information for the standard emission factors (lb/vehicle mile traveled) used for uncontrolled emissions for the various categories of vehicles on the road segments and open areas at the source, based on methodology for estimating emissions published by USEPA, with supporting explanation and calculations.
- D. Records of the estimated vehicle miles traveled on each roadway segment or other open area (miles/month, by category of vehicle), with supporting documentation and calculations. These records may be developed from the records for the amount of different materials handled at the source and information in a file that describes how different materials are handled.
- E. Records for each period when standard management practices were not implemented, including a description of the event, an estimate of control measures that were present during the event and an estimate of the additional emissions that occurred during the event.
- F. Records for emissions, in ton/month, based on the emission factors and other information contained in other required records, with supporting calculations.

2.7.10 Reporting Requirements

- a. Pursuant to 35 IAC 212.316(g)(1) and (5), the Permittee shall submit the following reports to the Illinois EPA related to the records required by 35 IAC 212.316(g)(1) and (2). (Refer to Condition 2.7.9(a))
 - i. A quarterly report including the information specified by 35 IAC 212.316(g)(5), including, but not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of 35 IAC 212.316(g).

- ii. An annual report containing a summary of the information in these records.
- b. The Permittee shall promptly notify the Illinois EPA of deviations with permit requirements by affected units as follows. Reports shall describe the probable cause of such deviations, any corrective actions taken, and preventive measures taken and be accompanied by the relevant records for the incident:
 - i. Notification within 30 days for any incident in which 35 IAC 212.301 may have been violated.
 - ii. Notification with the quarterly report for other deviations. (See also Condition 2.7.10(a)(i).)

2.8 Unit 08 - Gasoline Storage and Handling

2.8.1 Description

The Permittee stores gasoline, which is used for plant vehicles.

2.8.2 List of Emission Units and Air Pollution Control Equipment

Unit	Description	Emission Control
08	Underground Gasoline Storage Tank	Submerged Loading Pipe

2.8.3 Applicability Provisions

- a. The "affected tank" for the purpose of these unit-specific conditions is the storage tank described in Conditions 2.8.1 and 2.8.2.

2.8.4 Applicable Emission Standards

- a. The affected tank is subject to 35 IAC 218.122(b), which provides that:
 - i. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201 or unless such tank is a pressure tank as described in 35 IAC 218.121(a) or is fitted with a recovery system as described in 35 IAC 218.121(b) (2) [35 IAC 218.122(b)].

Note: The exception to this standard at 35 IAC 218.122(c) is not applicable because the vapor pressure of gasoline is greater than 17.24 kPa (2.5 psia) at 294.3°K (70°F).

- b. The affected tank is subject to 35 IAC 218.583: Gasoline Dispensing Operations - Storage Tank Filling Operations, which provides that:
 - i. The tank shall be equipped with a submerged loading pipe; and
 - ii. The vapors displaced from the storage tank during filling shall be processed by a vapor control system that includes a vapor collection system that meets the following requirements 35 IAC 218.583(d) (4);

- iii. All tank vent pipes shall be equipped with pressure/vacuum relief valves with the following design specifications:
 - A. The pressure/vacuum relief valve shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column; or
 - B. The pressure/vacuum relief valve shall meet the requirements of 35 IAC 218.586(c).
- c. The affected tank is subject to 35 IAC 218.585, which provides that no person shall sell, offer for sale, dispense, supply, offer for supply, or transport for use in Illinois gasoline whose Reid vapor pressure exceeds the applicable limitations, as follow, during the regulatory control period, which shall be May 1 to September 15 for all operations [35 IAC 218.585(a)].
 - i. The Reid vapor pressure of gasoline, a measure of its volatility, shall not exceed 9.0 psi (62.07 kPa) [35 IAC 218.585(b)].
 - ii. The Reid vapor pressure of ethanol blend gasoline shall not exceed the limitation for gasoline, as set forth above, by more than 1.0 psi (6.9 kPa) [35 IAC 218.585(c)].

2.8.5 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected tank not being subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), 40 CFR Part 60, Subpart Kb, because the capacity of the tank is less than 75 cubic meters.
- b. The affected tank is not subject to the requirements of 35 IAC 218.120, Control Requirements for Storage Containers of VOL, pursuant to 35 IAC 218.119, or 35 IAC 218.121, Storage Containers of VPL, pursuant to 35 IAC 218.123(a)(2), because the capacity of the tank is less than 151 cubic meters (40,000 gal).
- c. This permit is issued based on the affected tank not being subject to the requirements of 35 IAC 218.586, Gasoline Dispensing Operations - Motor Vehicle Fueling Operations, pursuant to 35 IAC 218.586(b),

which exempts any gasoline dispensing operation which dispenses an average monthly volume of less than 10,000 gallons of motor vehicle fuel per month, based on the monthly average for the most recent twelve calendar months, including only those months when the operation was operating.

2.8.6 Operational Limits and Emission Limitations

- a. The Permittee shall provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system [35 IAC 218.583(c) (2)].
- b. The Permittee shall repair, replace or modify any worn out or malfunctioning component or element of design [35 IAC 218.583(c) (3)].
- c. Operators shall maintain and operate each vapor control system in accordance with the Permittee's instructions [35 IAC 218.583(d) (1)].
- d. Operators shall promptly notify the Permittee of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system [35 IAC 218.583(d) (2)].
- e. The Permittee shall maintain gauges, meters or other specified testing devices in proper working order [35 IAC 218.583(d) (3)];
- f. The Permittee shall operate the vapor collection system and delivery vessel unloading points in a manner that prevents [35 IAC 218.583(d) (4)]:
 - i. A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B incorporated by reference in 35 IAC 218.112; and
 - ii. Avoidable leaks of liquid during the filling of storage tanks.
- g. Within 15 business days after discovery of a leak by the owner, operator, or the Agency, the Permittee shall repair and retest a vapor collection system which exceeds the limits of 35 IAC 218.583(d) (4) (A) [35 IAC 218.583(d) (5)].

- h. Emissions of volatile organic material from the affected tank shall not exceed the limit in Attachment 1.

2.8.7 Testing Requirements

The Permittee shall demonstrate compliance with 35 IAC 218.583(a)(3) at least annually, by measuring and recording the pressure indicated by a pressure/vacuum gauge at each tank vent pipe. The test shall be performed on each tank vent pipe within two hours after product delivery into the respective storage tank. For manifold tank vent systems, observations at any point within the system shall be adequate. The owner or operator shall maintain any records required by this subsection for a period of three years [35 IAC 218.583(a)(4)].

2.8.8 Inspection Requirements

None

2.8.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected tank:

- a. Design information for the capacity of the tank and the presence of a permanent submerged loading pipe.
- b. Maintenance and repair records for the affected tank, as related to the repair or replacement of the loading pipe.
- c. Records for each shipment of material loaded into the affected tank, including type of material, amount and, for each shipment of gasoline received during the regulatory control period, the Reid vapor pressure, psi.
- d. Amount of material loaded into the tank, gal/mo and gal/yr, by type of material.
- e. Annual emissions of volatile organic material, based on the records required above and published USEPA methodology for calculating emissions from handling of gasoline, the current version of USEPA's TANKS program or equations for calculating emissions contained in USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42.

2.8.10 Reporting Requirements

- a. For the affected tank, the Permittee shall promptly notify the Illinois EPA of deviations from permit requirements as follows. Such notifications shall include a description of each incident and a discussion of the probable cause of deviation, any corrective actions taken and any preventative measures taken:

Notification within 30 days for any deviation.

If you have any questions on this permit, please call Jason Schnepf at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:JMS:jar

cc: Region 1
Lotus Notes
CES

Attachment 1: Annual Emission Limitations (Tons/Year)

	PM	PM ₁₀	SO ₂	VOM	NO _x	CO
Combustion*	58.1	48.2	NA	36.5	1,093.9	NA
Battery						
Doors, Lids, Offtakes & Charging	0.7	0.5	NA	6.2	0.1	NA
Pushing	58.1	30.1	NA	34.6	12.6	NA
Quenching	202.5	19.9	---	---	---	---
By Products Plant						
Process Units & Leaking Components	---	---	---	3.0	---	---
Ammonium Sulfate System	1.0	1.0	---	---	---	---
Support Operations						
Coal and Coke Handling & Storage	18.0	9.0	---	---	---	---
Material Processing**	42.0	42.0	---	---	---	---
Roads	38.0	14.0	---	---	---	---
Gasoline Storage and Handling	---	---	---	0.1	---	---
Totals:	418.4	164.7	287.6	80.4	1,106.6	1,407.8

Note: "NA" Indicates limit not applicable to individual units, only source wide limit.

"*" Does not include unrelated emissions attributable to combustion of natural gas not related to the coke plant (See Condition 1.5.3(a) (ii) (A)).

"**" Includes the Shaker, Breaker, Bunker, Screen and Utility Systems, which are controlled by baghouses.

Attachment 2: Source Wide Emissions Comparison

	<u>PM</u> <u>(Tons)</u>	<u>PM₁₀</u> <u>(Tons)</u>	<u>SO₂</u> <u>(Tons)</u>	<u>VOM</u> <u>(Tons)</u>	<u>NO_x</u> <u>(Tons)</u>	<u>CO</u> <u>(Tons)</u>
Actual Emissions ^a	428.4	156.9	248.1	55.9	1,067.1	1,308.3
Potential to Emit	418.4	164.7	287.6	80.4	1,106.6	1,407.8
Difference	- 10.0	7.8 ^b	39.5	24.5	39.5	99.5
Significant Emission Rates ^c	N/A	15.0	40.0	25.0	40.0	100.0

^a For the PSD pollutants (NO_x for the 1-hour standard, SO₂ and CO), the definition of baseline actual emissions is used and is defined as the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding either the date the owner or operator begins actual construction of the project, or the date a complete permit application is received by the reviewing authority, whichever is earlier, except that the 10-year period shall not include any period earlier than November 15, 1990 [40 CFR 52.21(b) (48) (ii)].

For the NAA NSR pollutants (NO_x for the 8-hour standard, PM (measured as PM₁₀), PM₁₀, and VOM), actual emissions means the actual rate of annual emissions of a pollutant from an emissions unit as of a particular date. Actual emissions are equal to the average rate in tons per year, at which the emissions unit actually emitted the pollutant during the two-year period which immediately precedes the particular date or such other period which is determined by the Illinois EPA to be representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored or combusted during the selected time period; however, the Illinois EPA shall allow the use of a different time period upon a demonstration by the applicant to the Illinois EPA that the time period is more representative of normal source operation. Such demonstration may include, but need not be limited to, operating records or other documentation of events or circumstances indicating that the preceding two years is not representative of normal source operations [35 IAC 203.104].

^b The increase in emissions including condensable particulate matter is conservatively estimated to be 11.3 tons.

^c For the PSD pollutants, the significant emission rates are defined at 40 CFR 52.21(b) (23). For the NAA NSR pollutants, the significant emission rates are defined at 35 IAC 203.209.

Attachment 3: Unit-by-Unit Historical Actual* Emissions (Tons)

	PM	PM ₁₀	SO ₂	VOM	NO _x	CO
Combustion	39.3	38.4	204.7	20.0	1,058.7	1,280.1
Battery						
Doors, Lids, Offtakes & Charging	0.1	0.1	0.1	1.6	---	0.4
Pushing	60.0	31.2	43.3	32.6	8.4	27.8
Quenching	231.5	22.7	---	---	---	---
By Products Plant						
Process Units & Leaking Components	---	---	---	1.6	---	---
Ammonium Sulfate System	0.9	0.9	---	---	---	---
Support Operations						
Coal and Coke Handling & Storage	17.4	8.3	---	---	---	---
Material Processing**	41.9	41.9	---	---	---	---
Roads	37.3	13.4	---	---	---	---
Gasoline Storage and Handling	---	---	---	0.1	---	---
Totals:	428.4	156.9	248.1	55.9	1,067.1	1,308.3

Note: "*" For VOM, the actual emission data is based on the calendar years 2000 and 2001. For all other pollutants, the actual emission data is based on the calendar years 1999 and 2000.

*** Includes the Shaker, Breaker, Bunker, Screen and Utility Systems, which are controlled by baghouses.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

In the Matter of
Republic Steel Corporation
Chicago, Illinois

Proceeding pursuant to the
Clean Air Act, as amended

Approval to Construct

EPA-5-79-A-9

Authority

The approval to construct is issued pursuant to the Clean Air Act, as amended 42 U.S.C. 7401 et seq., (the Act) and the Federal regulations promulgated thereunder at 40 CFR 52.21 for the Prevention of Significant Deterioration of Air Quality (PSD).

Findings

1. The location where the Republic Steel Corporation (Republic) proposes to construct a new replacement coke battery (No. 2) is a Class II area, as determined pursuant to the Act. The area has been designated by the State of Illinois and the U.S. Environmental Protection Agency (U.S. EPA) as nonattainment for particulate matter and attainment for sulfur dioxide. A complete application was submitted by Republic to construct the new source at its Chicago, Illinois, steel works, pursuant to 40 CFR 52.21.

2. The coke battery is subject to the requirements of 40 CFR 52.21, and the applicable sections of the Act.

3. On January 12, 1979, U.S. EPA published notice in the Chicago Tribune seeking written comments from the public and giving an opportunity to request a public hearing on the application and U.S. EPA's review and preliminary determination to approve construction of the above-cited sources. No comments or requests for a hearing were received.

4. After review and analysis of all the materials submitted by Republic, U.S. EPA has determined that emissions from the construction and operation of the coke battery will not violate the applicable air quality standards. Replacement coke battery No. 2 will meet emission limits at least as restrictive as required by the application of Best Available Control Technology (BACT) pursuant to 40 CFR 52.21.

Conditions

5. No coke-oven gas from battery No. 2 shall be burned unless it contains a concentration of sulfur compounds, expressed as H_2S , of less than 35 grains per 100 dry standard cubic feet (dscf) of coke-oven gas produced. Included in this concentration are all sulfur compounds, expressed as H_2S , emitted from sulfur recovery equipment used to process the sulfur compounds removed from coke-oven gas.
6. New battery No. 2 must meet the following limitations:
- The duration of visible emissions during charging operations shall not exceed a total of 55 seconds for five consecutive charges.
 - No emissions of particulates from the waste gas stack shall exceed 0.03 grains/scf.
 - At no time shall there be visible emissions from greater than 5% of the offtake piping and 2% of the charging hole lids.
 - Not less than 90% of the emissions resulting from pushing coke from coke ovens shall be captured and exhausted to a gas cleaning device. The emissions from said device shall not exceed 0.03 pounds of particulate matter per ton of coke pushed. The visible particulate matter escaping from the hoods used to capture these emissions may not exceed 20% opacity.
 - Quenching will be performed using clean make-up water in a quench tower equipped with a baffled mist suppression system. The water applied to the coke in quenching shall be plant service water, shall not include coke by-product plant effluent, and shall have a dissolved solids content of less than 1500 ppm. A diverted flow, plume suppression system may be installed in lieu of the above if it can be demonstrated to the satisfaction of the Administrator that the emissions generated by such a system would not exceed that quantity generated by the use of clean water quenching as described above.
 - There shall be no visible emissions from more than 5% of the coke oven doors. The battery shall be designed to accommodate a door hooding system or a positive pressure gas sealing system. If at any time the battery is observed to have 5% or greater visible emissions exhibited at its doors, then the company must proceed to retrofit the battery with a door hooding system, or permanent positive pressure gas sealing system connections with sufficient gas volume to activate the positive pressure gas seal on each door throughout the coking cycle.

The control measures stated above represent emissions limitations at least as stringent as those requested by the application of Best Available Control Technology [40 CFR 52.21(d)(ii)].

Approval

7. Approval to construct a new replacement coke battery is hereby granted to the Republic Steel Corporation subject to the conditions expressed herein and consistent with the materials and dates included in the application filed by the Corporation. Any departure from the conditions of this approval or the terms of Republic's application must receive the prior written authorization of U.S. EPA.

8. This approval to construct does not relieve Republic of the responsibility to comply with the control strategy and all local, State and Federal regulations which are part of the applicable Implementation Plan, as well as all other applicable local, State and Federal requirements.

9. A copy of this approval has been forwarded to the East Side Branch of the Chicago Public Library, 10542 S. Ewing, Chicago, Illinois 60617

4-2-79

DATE


REGIONAL ADMINISTRATOR

Attachment 5

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - SPECIAL

PERMITTEE

LTV Steel Company, Inc.
Attn: R. M. Zavoda
3100 East 45th Street
Cleveland, Ohio 44127

Application No.: 98120091

I.D. No.: 031600AMC

Applicant's Designation:

Date Received: December 22, 1998

Subject: Coke Oven Combustion Stack

Date Issued: May 14, 1999

Expiration Date: May 14, 2004

Location: 11600 South Burley Avenue, Chicago

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of operating the coke ovens under special provisions during repair as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. This federally enforceable state operating permit is issued to establish additional provisions governing the circumstances under which the opacity of emissions from a coke oven combustion stack may exceed 30%, as otherwise allowed by 35 IAC 212.443(g)(2). These provisions (Conditions 2, 3, and 4) were developed in consultation with USEPA and will become part of Illinois' State Implementation Plan (SIP), pursuant to Section 110(a) of the Clean Air Act, for attainment of the PM-10 air quality standard in the Lake Calumet nonattainment area. These provisions will be federally enforceable by the USEPA both as they are contained in a FESOP and as they are part of Illinois' SIP approved by USEPA. In addition, these provisions are enforceable by the Illinois EPA. This permit has satisfied the requirements for public notice.
2. No person shall cause or allow the emission of particulate matter from a coke oven combustion stack to exceed 30% opacity, except that opacity may exceed 30% but must not exceed 60% opacity during periods when underfire flues for an oven are pressurized for the purpose of identifying and repairing leaks at tie-in joints resulting from end-flue rehabilitation. Opacity in excess of 30% during such periods shall not occur more than 3 hours on any calendar day, and shall not occur more than 20 hours per month based on a twelve month rolling average period. The owner or operator shall keep written records identifying the oven repaired, type of repair, and the date, time, and duration of all tie-in joint repair periods. The requirements of 35 Ill. Adm. Code 212.324(g)(4) and (5) shall apply to these records. If a stack test is performed while a coke oven is being repaired, this limitation is not a defense to a finding of a violation of the mass emission limitation in 35 Ill. Adm. Code 212.443(g)(1) or any applicable permit condition. To the extent that these requirements are more stringent than the requirements of 35 IAC 212.443(g)(2), this condition supersedes the requirements of 35 Ill. Adm. Code 212.443(g)(2).

- 3a. Observations of opacity for purposes of reporting compliance with opacity limits for coke oven combustion stacks shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 [35 IAC 212.443(g)(2)].
- b. As an alternative to performing observations in accordance with Method 9, the Permittee may use a Continuous Opacity Monitoring System (COMS) to record opacity for purposes of reporting compliance with limits for a coke oven combustion stack. Any such COMS shall be subject to the following requirements:
- i. The Permittee shall provide the Illinois EPA with written notice at least 60 days before beginning to rely on COMS data to demonstrate compliance with opacity limits. This notification shall include a description of the proposed COMS and associated data storage system, including manufacturer, model, and specifications; the proposed location and layout of the COMS in the coke oven combustion stack; and the schedule for conducting the initial performance evaluation required below.
 - ii. The Permittee shall conduct a performance evaluation of the COMS to demonstrate that it meets Performance Specification 1, as specified in 40 CFR 60, Appendix B, before beginning to rely on the COMS, annually, and at such times thereafter as the Illinois EPA may reasonably specify. The Permittee shall promptly submit a written report for each COMS performance evaluation to the Illinois EPA.
 - iii. The Permittee shall install, operate and maintain the COMS in accordance with the following, with the "Illinois EPA" substituting for the "Administrator" of USEPA:

40 CFR 60.7(c) emission report	Quarterly excess
40 CFR 60.7(d)	Operating file
40 CFR 60.13(a) specifications	Monitor performance
40 CFR 60.13(d)	Operating procedures
40 CFR 60.13(e)	Operation requirements
40 CFR 60.13(f) installation	Proper monitor
40 CFR 60.13(h) procedures	Data reduction
 - iv. The performance evaluation and quarterly excess emission reports shall be submitted to:

Illinois EPA
Bureau of Air
Field Operation Section
1701 S. First Avenue
Maywood, Illinois 60153

Illinois EPA
Bureau of Air
Compliance and Systems Mgmt. Section
1021 North Grand Ave., East
P.O. Box 19276
Springfield, Illinois 67294-9276

Illinois EPA
Source Monitoring Unit
1021 North Grand Ave., East
P.O. Box 19276
Springfield, Illinois 62794-9276

- v. Method 9 observations indicating violations shall demonstrate noncompliance, notwithstanding any inconsistency with COMS data.
 - vi. Once the Permittee has begun reliance on a COMS, the Permittee shall continue to rely on the COMS, operating it as specified above, until 30 days after written notice is provided to the Illinois EPA that the Permittee will not longer rely on a COMS. (If the Permittee subsequently resumes reliance on a COMS, paragraphs A and B shall again be applicable.)
4. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

If you have any questions on this, please call Darin Clutts at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:DCC:jar

cc: Region 1

COPY
Original Signed by
Donald E. Sutton, P.E.

Attachment 6: Significant Emission Units At This Source

Unit	Description	Construct Date	Emission Control
01	Coke Oven Processes	1981	
	- Fugitives - Charging - Doors - Lids - Offtakes		- Jumper Pipe, PROven System, Charging System, Seal/Maintenance Program, Work Practice Standards
	- Collecting Mains		- Work Practice Standards
	- Soaking		- Work Practice Standards
	- Pushing		- Hooding/Baghouse System
	- Quenching		- Quench Tower (Design & TDS Limit)
	- Combustion Stack		- COG Cleaning at Byproducts Plant (Takahax System)
	- Bleeder Stacks		- COG Cleaning at Byproducts Plant, Byproducts Flare (Takahax System)
	- Emergency Gas Release		- Emergency Flare System
02	By-Products Plant:	1981	
	- Primary Coolers		Nitrogen Blanketing
	- Tar Precipitators		"
	- Tar Decanter System		"
	- Desulfurization System		"
	- Ammonia Scrubbers		"
	- Ammonia System		"
	- Light Oil System		"
	- Wash Oil System		"
	- Flushing Liquor System		"
	- Misc. Sumps and Slop Tanks		"
	- Waste Water Treatment System		"

Unit	Description	Construct Date	Emission Control
003	Storage Tanks and Load facilities: - Raw Liquor (B6102) - Enriched Ammonia (B6104) - Strong Ammonia Liquor (B6105) - Make-up Wash Oil (B7102) - Tar (B9501A & B9501B) - Primary Light Oil (B9601A, B9601B, B9601C, B9602A & B9602B) Loadout Facilities - Light Oil Loading - Tar Truck Loadout	1981 1981 1997 1981 1981 1981	Nitrogen Blanketing " " " " "
04	Boiler 1 - 146 million Btu/hr Boiler 2 - 146 million Btu/hr Boiler 3 - 146 million Btu/hr Boiler 4B - 368 million Btu/hr Other: - Clean Gas Flare System - Battery Combustion Stack	1942 1942 1942 1974	Low NO _x Burner None None Low NO _x Burner Flare Design Combustion
05	Components with Potential to Leak		Leak Detection and Repair Program
06	Miscellaneous Process Equipment		Dust Control Devices
07	- Paved roads - Unpaved roads - Coal, coke and other bulk material handling and storage		Dust Control Program
08	Gasoline Storage and Handling	1989	Stage 1 Vapor Recovery

Attachment 7: List Of Abbreviations/Acronyms Used In This Permit

Act	Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	<i>Compilation of Air Pollutant Emission Factors</i> , Volume 1, Stationary Point and Other Sources (and Supplements A through F), AP-42, Fifth Edition, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
Btu	British thermal unit
°C	Celsius
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CFR	Code of Federal Regulations
cm	centimeter
CO	Carbon Monoxide
COE	Coke Oven Emissions
COG	Coke Oven Gas
dscf	dry standard cubic foot
ERMS	Emission Reduction Marketing System
°F	Fahrenheit
gal	gallon
gr	grain
HAP	Hazardous Air Pollutant
hr	hour
in	inch
IAC	Illinois Administrative Code
Illinois EPA	Illinois Environmental Protection Agency
kPa	kilopascal
Kg	kilogram
kW	kilowatts
l	liter
lb	pound
m ³	cubic meter
MACT	Maximum Achievable Control Technology
Mg	megagram
min	minute
mmBtu	million British thermal units
mo	month
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
psi	pound per square inch
ppm	parts per million
PSD	Prevention of Significant Deterioration
SO ₂	Sulfur Dioxide
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled

VHAP	Volatile Hazardous Air Pollutant
VOL	Volatile Organic Liquid
VOM	Volatile Organic Material
yr	year